RECORDS CODE SHEET
5ND 4535 (Rev. 5-60)

NAVAL AVIATION SAFETY CENTER

GENERAL (Card No. 1)

Bureau Number	145072	16-21
Reporting Custodian	T10	22-24
Type of Duty	23	25-26
Major Command	7	27
Aircraft Damage	B	28
Aircraft Injury	D E	29
Maneuver prior to Accident	N	30
First Accident type	H1	31-32
First Accident phase	53	33-35
Second Accident type	C3	36-37
Second Accident phase	A1	38-40
Type of Operation	3	41-42
Contributing Cause Factors	178	43-47
Pilot Factor, First should have diverted	X G	48-49
Pilot Factor, Second	E8	50-51
Pilot Factor, Third	B6	52-53
First other Personnel Factor		54-55
Second other Personnel Factor		56-57
Primary Major Material Factor	F	58
Secondard Major Material Factor		59
Design		60
Facilities		61
Special Data & Cond.	G	62-68
Type of Flight Hazard		69
Pri. Cause/Avoidable Inc. or Flt Haz or Gr Acd't	1	70
Recommendation Code		71-72
Carrier Hull Number		73-74
No Personnel Card ("R")		80

SUPPLEMENTARY (Card No. 2)

Weather	8	16-21
Kind of Flight	1K	22-24
Relative Wind - Direction	7	25
Relative Wind - Velocity	3	26
Relative Wind (Old Code - Not in Use)		27
Clearance	2	28
Time of Day	2	29
Number of other Aircraft		30
Altitude of Occurrence		31-32
Distance from Field (Coded on forced landings only)		33-35
Length of Runway (Coded on forced landings only)		36-37
Field Elevation (Coded on forced landings only)		38-40
Non-Navy Injury ("R")		41
Number of "A" or "L" or "M" Injury		42
Number of "B" Injury		43
Number of "C" Injury	01	44
Number of "D" Injury	01	45
Number of "E" Injury		46
Location	A I P A T U X	47-53
Facility Data	D	54-60

ACCIDENT DAMAGE [B] (9)

ACCIDENT INJURY [D] (10)

FISCAL YEAR [7] (75)

	Don't Count	Enemy Action	Other Aircraft
I.D. NO.	0	10	2510
	1 YR	2 MO 3 DAY	4 5 TYP 6 7 SEQ 8
		24D2N	
		11 12 13 14 15 Model	

SPECIAL ATTN: ("X") X

Model Code 04

76 77

IBM: The above Fields are to be punched in all Coded Code

PERSONNEL STATISTICS (Card No. 3)

	File Number	Pilot Name	Rank/Rate	Br Service	Age	Yrs Experience	Status	Position	Inj to Ind	Abandon A/C	Pilot Factor Involved	Trainer Utilization	Instr. Card	Total Time All Models	All Models 3 Months	All Series This Model	All Ser Mod 3 Months	CY Landings	Instrument Hours	Nite Hours	Total Time Jet or Helo
	16 17 18 19 20 21	22 23 24 25 26 27 28 29 30 31	32	33 34 35 36	37 38 39	40 41	42 43 44	45 46	47 48	49 50	51	52-53	55	56-57	58-59	62-63	65-66	68	69-70	71-72	73-74
03	(b) (6)	(b) (6)	3	X	F	8	A	1	X	1	1	99	2	23	04	26	04		06	02	81
04																					
	Dual Pilot Name / File Number																				

IBM: PERSONNEL CODED ON REVERSE SIDE ☐

CODED ____ REVIEWED ____ LOGGED ____ PUNCHED ____ VERIFIED ____ REVIEWED ____ REPUNCHED ____

CODE SHEET REVIEWED BY CLASS DESK ANALYST ____ (Initials) ____ (Date)

A & R DEPT CODE SHEET

F NOV 16 1961

2

Don't Count ☐ Other Aircraft ☐

Year	Month	Day	Type Occurrence	Sequence	Damage Injury	Model Aircraft				
1 2	3	4 5	6	7 8	9	10	11 12	13	14	15
61	0	25	1	02	B	D	A	40	2	N

W145078

Card No.	75	76	77	78	79	80
1	1	0	X	6	2	1
2					2	
3					2	
4					2	
5					2	

NARRATIVE BRIEF

Card No. 1

PILOT LANDED WITH CROSSWIND THAT VARIED FROM 15 TO 21

Card No. 2

KTS FROM 60° DEG TO RT OF ~~RWY~~ HEADING & RIGHT WING

Card No. 3

LIFTED AFTER TOUCHDOWN AND PLANE SWERVED OFF RWY.

Card No. 4

Card No. 5

Prepared by Gee Reviewed [illegible] Punched DEC 23 1960 Verified [illegible]

Note to IBM: Route code sheet to Open File upon completion of Brief Cards.

U. S. NAVAL AVIATION SAFETY CENTER
U. S. NAVAL AIR STATION
NORFOLK 11, VIRGINIA

NASC/113/rw
Ser: 1186
28 May 1962

SPECIAL HANDLING REQUIRED IN ACCORDANCE
WITH PARAGRAPH 70, OPNAVINST P3750.6D

From: Commander, U. S. Naval Aviation Safety Center
To: Commander, U. S. Naval Air Test Center, Patuxent River, Maryland

Subj: NATC Patuxent River AAR ser 7-60 concerning A4D-2N BuNo 145072, accident occurring 25 October 1960, pilot (b) (6)

1. The subject report and all endorsements thereon have been reviewed. The Naval Aviation Safety Center concurs with the comments and recommendations of the Aircraft Accident Board as modified by subsequent endorsers.

2. While the urgency of the test program in progress may tend to justify this flight the pilot used poor judgement in terminating the flight at Pax River. When the possibility of encountering a 90-degree crosswind component in excess of 20 knots exists an A4D pilot is foolhardy indeed to land unless he must. In this case there were several suitable alternate fields within easy range. Even after committing himself to the landing the pilot might have salvaged it had he used the proper crosswind technique. Instead he delayed use of aileron until the situation was beyond control. It is far easier to keep the wing down by proper use of aileron and stick than it is to get the wing down once it comes up. When this occurs, upwind braking is lost and there is no way of controlling the downwind arc that develops immediately - the pilot is just a passenger from that point on.

3. Recommendation 1 of the basic report has been incorporated in the A4D NATOPS Manual

4. The cause of this accident has been recorded by the Center indicating the pilot as the primary factor and weather as an additional contributing factor.

(b) (6)
Chief of Staff

Copy to:
BUWEPS (C-13) (2)
BUWEPSREP LONG BEACH
CMC (CODE MA5)

3

C-1313:HWM/51
18 FEB 1961

FIRST ENDORSEMENT on Supplementary Information to NATC Pax River AAR Serial 7-60 concerning A4D-2N BuNo 145072, accident occurring 25 Oct 1960

From: Chief, Bureau of Naval Weapons
To: Commander, Naval Aviation Safety Center

Subj: NATC Pax River AAR 7-60 Supplementary Information; forwarding of

1. Forwarded, contents noted.

(b) (6)

By direction

Copy to:
BUWEPSREP EL SEGUNDO
CMC (Code MA5)
CO, NAS PAXRIV

4

NAVAL AIR TEST CENTER
U. S. NAVAL AIR STATION
PATUXENT RIVER, MARYLAND

3750/A4D-2N
ST32-46

FEB 8 1961

VA4D1/3000
(C13)

From: Commander, Naval Air Test Center
To: Commander, Naval Aviation Safety Center
Via: Chief, Bureau of Naval Weapons

Subj: Naval Air Test Center (S.T.) AAR, serial 7-60, concerning A4D-2N BuNo 145072 accident occurring 25 Oct 1960, pilot (b)(6) supplementary information regarding

Ref: (a) OPNAVINST 3750.6D

Encl: (1) NAS Quonset Point Disassembly and Inspection Report No. 213 Concerning TJ-L2 Fuel Control, Serial No. 509230, Installed on J65-W-4B/16A Engine, Serial 610414, in A4D-2N BuNo 145072
(2) Naval Air Material Center Fuel Analysis Report XE-3 JMcK:mlm Ser 10350 of 17 Nov 1960

1. In accordance with instructions set forth in paragraph 47 of reference (a), the following supplementary information is submitted.

2. The conclusions of the investigation reported in enclosure (1) state that no indications of fuel control malfunction were found during flow test or disassembly inspection. Complete disassembly of the fuel control revealed only normal wear.

3. The Fuel Analysis, as reported in enclosure (2), indicated that the fuel samples taken from the fuel control and low point drain after the accident showed gross contamination and that the quantity of lint present in the samples could constitute a source of filter plugging if the fuel samples were representative.

4. The fuel samples submitted for analysis are not considered representative. The gross contamination revealed by the fuel analysis most probably entered the aircraft fuel

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

021361 0580

system when the main fuel cell was ruptured during the sequence of events after the main landing gear was sheared and prior to the airplane coming to rest on the drop tanks.

5. The fuel sample taken from the airplane prior to the subject flight was visually inspected by Service Test personnel and appeared normal. The main low pressure fuel filter and the number 4 and 5 flow divider filters were visually inspected after the accident by Mr. (b) (6) Wright Aeronautical Division Representative, and members of the Accident Board and found to contain no evidence of lint.

6. Comments:

a. There is no indication of a failure or malfunction of the fuel control as originally suspected.

b. The fuel analyzed was not representative of the fuel used during flight.

7. Recommendations:

a. That material failure or malfunction be removed as a contributing cause factor of the accident, page 2 of the subject report.

E. A. HANNEGAN

Copy to:
NAVAVNSAFECEN (2)
BUWEPS
BUWEPSREP, El Segundo
CMC (Code MA5)
CO, NAS PAXRIV

6

NAVAL AIR MATERIAL CENTER
AERONAUTICAL ENGINE LABORATORY
PHILADELPHIA 12, PA.

10,000

IN REPLY REFER TO:
XE-3:JMcK:mlm
10350

17 NOV 1960
NOV 22 1960

SPEEDLETTER
From: Commanding Officer, Naval Air Material Center, Phila. 12, Pa.
To: Commanding Officer, Naval Air Test Center, Patuxent River, Md.

Subj: Fuel analysis, report on

Ref: (a) BUAER Inst NAVAER 06.16 for Quality Control & Surveillance of Aviation Fuels of 9 Oct 1959
(b) BUAER Technical Order No. 2-57 of 1 Aug 1957

Encl: (1) Fuel Analysis Data

1. The addressee forwarded two samples of JP-5 fuel to the Aeronautical Engine Laboratory, Naval Air Material Center for examination. This study was requested in connection with an aircraft accident review currently being conducted.

2. The submissions, identified as having been sampled from the fuel control and low point drain of the aircraft, respectively, were examined according to selected requirements of reference (a). The test results are forwarded as enclosure (1). These data show both samples conform to reference (a) except that the samples show gross contamination. It is not possible to determine whether the source of the contamination was solely from the fuel or was possibly from pickup in obtaining the fuel sample. This can only be ascertained by review of the sampling and handling procedure used at the site. The quantity of lint present in the sample could constitute a source of filter plugging if the fuel sample is representative.

3. The addressee requested that the examination be conducted as outlined by reference (b). For information, reference (b) has been canceled and has been superseded by reference (a).

(b) (6) [redacted]
By direction

Enclosure (2)

NAVAL AIR MATERIAL CENTER
AERONAUTICAL ENGINE LABORATORY
FUELS & LUBRICATING OILS DIVISION
FUEL ANALYSES

FUEL AVFUEL GRADE JP-5
SOURCE NATC PATUXENT, MD. PROJECT
ENGINEER DATE REPORTED TO

Patuxent Description of Sample	Fuel Control Serial #3	Low Drain Point, Serial #2
NAMATCEN (AEL) SAMPLE NO.	7839	7840
Gravity, Specific at 60/60°F	0.8128	0.8123
Gravity, °API	42.6	42.7
Reid Vapor Pressure, lb/sq in.	0.4	0.4
Distillation, I.B.P. °F	360	354
5% over, °F	378	376
10% over, °F	388	386
20% over, °F	396	396
30% over, °F	404	404
40% over, °F	410	410
50% over, °F	416	416
60% over, °F	424	424
70% over, °F	432	432
80% over, °F	444	442
90% over, °F	460	456
95% over, °F	478	474
End Point, °F	492	488
Recovery, % vol	98.1	98.0
Residue, % vol	0.7	0.9
Distillation Loss, % vol	1.2	1.1
(10% - 50%) over, °F		
Gum, Accelerated, Mg/100 ml		
Residue, Air Jet, Mg/100 ml	1.8	1.4
Sulfur, % wt		
T.E.L. Content, Ml/gal		
Aromatic Content, % vol		
Aniline Point, °C		
Aniline - Gravity Constant		
Heat of Combustion, BTU/lb		
Corrosion, Copper Strip	1b	1b
Freezing Point	-60	-60
Water Tolerance	0.5(1b)	0.5(1b)
Viscosity		
Viscosity		
Flash Point, °F	140	140
Knock Rating, F-3 Method		
F-4 Method		
Tank No.		
Grade		
* Contamination, mg/liter	10.9	11.2
NOTES: Water Content, % vol.	0.01	0.01

* Appreciable amount of lint

8

ENCLOSURE (1) to
Enclosure (2)

C-1312:HWM/130

26 MAR 1962

SPECIAL HANDLING REQUIRED IN ACCORDANCE
WITH PARAGRAPH 70, OPNAVINST 3750.6D

THIRD ENDORSEMENT on NATESTCEN (S.T.) AAR ser 7-60 concerning A4D-2N, BUNO 145072, accident occurring 25 October 1960, pilot (b) (6)

From: Chief, Bureau of Naval Weapons
To: Commander, U. S. Naval Aviation Safety Center

Subj: NATC (S.T.) AAR ser 7-60; forwarding of

1. Forwarded.

2. Subsequent to this accident, the A4D NATOPS Manual has been published which recommends diversion to an alternate field or a landing in the arresting gear if crosswind components are in excess of 15 knots at 90°. The NATOPS Manual, coupled with the Flight Manual discussion, is considered adequate coverage.

3. The recommendation concerning a Control Tower Computer is noted. No development is presently planned. Such a computer might easily be fabricated from locally available material if deemed a requirement.

4. A4D Aircraft Service Change 189 issued 6 September 1960 installs a safety lock on the manual fuel shut-off control panel.

(b) (6)

BY direction

Copy to:
COM NATC PATUXENT RIVER
CO NAS PATUXENT RIVER
CMC

9

3750/A4D-2N
ST01-454

DEC 7 1960

SECOND ENDORSEMENT on NATESTCEN (S.T.) AAR serial 7-60 concerning A4D-2N, 145072, accident occuring 25 October 1960, pilot (b) (6)

From: Commander, Naval Air Test Center, Patuxent River, Maryland
To: Commander, Naval Aviation Safety Center
Via: Chief, Bureau of Naval Weapons

Subj: Naval Air Test Center (S.T.) AAR serial 7-60; forwarding of

Ref: (a) NATC PAXRIV msg 052154Z of Dec 1960

1. Forwarded. The comments and recommendations of the Aircraft Accident Board, as modified in the first endorsement, are concurred in.

2. By reference (a) the aircraft damage category was changed to Alfa vice Bravo.

3. The following additional information is considered pertinent and worthy of mention in this particular accident:

a. The flight of this aircraft was required in the evaluation of an attitude indicating gyro. It was important to fleet readiness that this evaluation proceed without delay. Because of this urgency, some risk was accepted in undertaking this flight.

b. Recognizing that the closing of runway 31-13 would create a hazardous cross-wind condition on the available runways when there were strong northwest winds, a special briefing was held on the day prior to the accident to inform all A4D pilots of the critical crosswind landing characteristics of this aircraft. Because of his extensive experience and other qualifications, Major (b) (6) was designated to provide this briefing. The accident occurred despite this precaution.

E. A. HANNEGAN

Copy to:
NAVAVNSAFECEN (2)
BUWEPS
BUWEPSREP, El Segundo
CMC (Code MA5)
CO NAS PAXRIV
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

10

ORIGINAL

OP-22
3750
Ser 342
NOV 29 1960

FIRST ENDORSEMENT on Dir S.T. Div AAR 7-60 of 25 Oct 1960

From: Commanding Officer, U. S. Naval Air Station, Patuxent River, Maryland
To: Commander, Naval Aviation Safety Center
Via: (1) Commander, Naval Air Test Center
(2) Chief, Bureau of Naval Weapons

1. Forwarded, concurring with recommendations of the board with the exception of paragraph 3.

2. The tower transmits wind information in accordance with the ATM-2A. It is felt that this is sufficient information for the pilot to make a decision about his landing. Further detailed information is available on request.

WILLIAM P. WOODS

11

ORIGINAL

AIRCRAFT ACCIDENT REPORT
OPNAV FORM 3750-1 (Rev. 5-58) PAGE 1

SPECIAL HANDLING REQUIRED in accordance with Para. 70, OPNAV INSTRUCTION 3750.6D

OPNAV REPORT 3750-1

PART I - GENERAL

SECTION A - IDENTIFICATION

1. A/C ACCIDENT BOARD APPOINTED BY: Director, Service Test Division, Naval Air Test Center

2. DATE OF ACCIDENT: 25 Oct 1960 | TIME (LZT): 0955Q

3. SERIAL NUMBER: 7-60

4. TO: Commander, Naval Aviation Safety Center ~~Chief of Naval Operations~~

5. ENCLOSURES:
(1) Pilot's Statement
(2) Wreckage Diagram
(3) Photographs of Wreckage Area (4)
(4) Tower Operators' Statements (3)
(5) Tower Radio Transcript
(6) Meteorology Duty Officer's Report
(7) Statement of Two Witnesses
(8) Photographs of Aircraft Damage (11)
(Continued in Remarks Section)

6. VIA:
(1) CO, NAS, Patuxent River, Md.
(2) Commander, Naval Air Test Center
(3) Chief, Bureau of Naval Weapons
(4)
(5)
(6)
(LAST) ~~Commander, U.S. Naval Aviation Safety Center~~

7. REPORTING CUSTODIAN (if different than item 1. above): Commander, Naval Air Test Center

8. ACTIVITY OPERATING A/C (if different than item 7.)

9. KIND OF FLIGHT: 1K

10. TIME OF DAY: [ ] DAWN [X] DAY [ ] DUSK [ ] NIGHT

11. LOCATION OF ACCIDENT: Off left side Runway 240, NAS Patuxent River

12. ELEVATION ABOVE SEA LEVEL: 38'

13. PLACE OF LAST TAKE-OFF: NAS Patuxent River, Maryland

14. CLEARED: FROM NAS PaxRiv.,Md. TO NAS PaxRiv.,Md.

15. TYPE CLEARANCE: [ ] IFR [X] VFR [ ] DVFR [X] LOCAL [ ] OPERATIONAL [ ] AIRWAYS [ ] DIRECT [ ] OTHER (Specify)

16. TIME IN FLIGHT: 0+55

17. TYPE ACCIDENT: H-1 Ground swerve

18. PHASE OF FLIGHT: 5 - Landing

A/C

19. MODEL	20. SERIAL NO.	21. DAMAGE TO A/C	22. DOLLAR COST	23. AIRSPEED (Est.)	24. A/C WEIGHT
A4D-2N	145072	[ ] A [X] B [ ] C [ ] D [ ] E [ ] F	$75,000	130	12,594

25. LIST MODEL, SER. NR, REPORTING CUSTODIAN AND DAMAGE CLASSIFICATION OF ANY OTHER A/C INVOLVED (Complete an OPNAV FORM 3750-1 for each A/C involved): None

1. NAME (Last, first and middle initials)	2. RANK, RATE	FILE, SERVICE NO.	DESIG-NATOR	BRANCH OR SERVICE	3. AGE	4. YEARS OF EXP. DNA	5. BILLET	6. POSITION	7. INJURY CODE
PILOT (at controls at time of accident) (b) (6)	MAJ	(b) (6)	7307	USMC	34	8	Pilot	Cockpit	E
CO-PILOT									

PERSONNEL		8. OFT - OPERATIONAL FLIGHT TRAINER		9. CPT - COCKPIT PROCEDURES TRAINER		10. UNIT TO WHICH PERSONNEL ARE ATTACHED	11. TYPE INSTRUMENT CARD
		AVAILABLE	USED	AVAILABLE	USED		
PILOT	YES					Service Test Division, Naval Air Test Center	[X] STANDARD [ ] SPECIAL
	NO	X		X			
CO-PILOT	YES						[ ] STANDARD [ ] SPECIAL
	NO						

SECTION B - PERSONNEL DATA

PILOT EXPERIENCE IN HOURS

12.

ITEM		PILOT	CO-PILOT
ALL MODELS		2321.1	
ALL MODELS IN LAST 12 MONTHS		207.1	
ALL MODELS IN LAST 3 MONTHS		48.5	
ALL SERIES THIS MODEL (item 19)	A/C	260.8	
	OFT / CPT		
ALL SERIES THIS MODEL LAST 12 MONTHS	A/C	178.5	
	OFT / CPT		
ALL SERIES THIS MODEL LAST 3 MONTHS	A/C	40.4	
	OFT / CPT		

ITEM		PILOT	CO-PILOT
CV LANDINGS DAY/NIGHT		NA	
FCLP LANDINGS DAY/NIGHT		225	
INSTRUMENT HOURS LAST 3 MONTHS		6.3	
NIGHT HOURS LAST 3 MONTHS		2.1	
TOTAL HELO. HOURS (Helo. AAR only)			
TOTAL JET HOURS (JET AAR only)		810.0	
LAST FLIGHT, ALL SERIES THIS MODEL	DATE	10-21-60	
	DURATION	1.1	

OTHER PERS.

13.

NAME (Last, first and middle initials)	DNA	RANK, RATE	FILE/SERVICE NO.	ORG. TO WHICH ATTACHED	INJURY CODE	BILLET	POSITION
1. None							
2.							
3.							
4.							
5.							

AIRCRAFT ACCIDENT REPORT

C. WEATHER

1. CEILING	2. VISIBILITY	3. WIND DIRECTION & VELOCITY (relative)	4. TEMPERATURE	OUTSIDE AIR	RUNWAY	5. DEW POINT	6. ALTIMETER SETTING
Clear	15	066°/13+20		46°F	46°F	29°F	29.97

7. OTHER WEATHER CONDITIONS (*Winds aloft, icing levels, sea state, etc., if pertinent to accident*)

None

D. CONTRIBUTING FACTORS

√	FACTOR	√	FACTOR	√	FACTOR
X	PILOT		LANDING SIGNAL OFFICER	X *	MATERIAL FAILURE OR MALFUNCTION
	CREW		OTHER PERSONNEL (*Specify*)		DESIGN
	SUPERVISORY PERSONNEL		ADMINISTRATIVE		ROLLING AND PITCHING DECK/ ROUGH SEAS
	MAINTENANCE PERSONNEL		AIRPORT OR CARRIER FACILITIES		UNDETERMINED
	SERVICING PERSONNEL	X	WEATHER	*	OTHER (*Specify*) Fuel Control malfunction possible

E. DEPLOYMENT

FOR ACCIDENTS ABOARD DEPLOYED CARRIER (*Complete following section on Pilot.*)

1. DATE DEPLOYED	2. DAY - HOURS/LANDINGS LOGGED SINCE DEPLOYED	3. DAY - HOURS/LANDINGS LOGGED LAST 30 DAYS
4. INSTRUMENT HRS. LOGGED SINCE DEPLOYMENT	5. NIGHT - HOURS/LANDINGS LOGGED SINCE DEPLOYED	6. NIGHT - HOURS/LANDINGS LOGGED LAST 30 DAYS

PART II - MAINTENANCE, MATERIAL AND FACILITIES DATA

SECTION A - AIRCRAFT AND ENGINE DATA

1. A/C HISTORY

DATE OF MANUFACTURE	SERVICE TOUR	MONTHS IN THIS TOUR	TOTAL NO. OF OVERHAULS	FLIGHT HRS. SINCE LAST OVERHAUL	FLIGHT HRS. SINCE ACCEPTANCE	TYPE CHECK LAST PERFORMED	FLIGHT HOURS SINCE LAST CHECK	NO. OF DAYS SINCE LAST CHECK
11-20-59	1	11	None	None	217.0	Inter-mediate	32.3	66

2. ENGINE HISTORY

		ENGINE MODEL	ENGINE SERIAL NO.					
1	3-28-55	J65-W48	W610414	4	231.0	567.9	Inter-mediate	32.3	66
2									
3									
4									

3. GENERAL

a. DID FIRE OCCUR? ☐ BEFORE ACCIDENT ☒ AFTER ACCIDENT ☐ DID NOT OCCUR

b. DID EXPLOSION OCCUR IN FLIGHT? ☐ YES ☒ NO

c. CHECK IF APPLICABLE ☒ AMP FOR SERIAL NATC ST #723

d. HAS DIR BEEN REQUESTED? ☒ YES ☐ NO

e. FAILED COMPONENTS INVOLVED: Fuel Control malfunction possible

4. MAINT. AND ENG. FACTORS

CHECK ITEMS PRESENT IN THIS ACCIDENT

a. ☐ A/C DESIGN
b. ☐ A/C EQUIPMENT
c. ☐ MAINTENANCE
d. ☐ UNDETERMINED
e. ☐ TECHNICAL INSTRUCTION
f. ☐ OTHER (*Specify*)
g. ☐ SURFACE FACILITIES
h. ☐ HUMAN ENGINEERING (*e.g., Cockpit configurations, etc.*)

13

5. OTHER DATA

a. ALTITUDE AT MALFUNCTION	b. AIRSPEED	c. OPERATING TEMP.	d. WEIGHT OF A/C	e. C.G. (% MAC)	f. KIND OF FUEL	g. FUEL PRESSURE
	130 Kts.	Normal	12,594	22%	JP-5	Normal

h. EVIDENCE OF FUEL CONTAMINATION: None

i. CAUSE OF ENGINE FAILURE OR FLAMEOUT: NA

j. FUEL CONTROL REGULATOR/CARBURETOR (*List stock and ser. nos., give time since new or overhauled*): FSN RQ2915-671-6633-NBPD,S/N 509230

k. EXTERNAL STORES ABOARD A/C: 2 - Empty 300 gal. external tanks

(*If additional space is necessary, attach additional sheets*)

AIRCRAFT ACCIDENT REPORT

PART II - MAINTENANCE, MATERIAL AND FACILITIES DATA (cont'd)

SECTION B - FACILITIES DATA

1. GENERAL - √ BASIC FACILITIES INVOLVED, DESCRIBE EFFECT ON ACCIDENT IN THE ANALYSIS SECTION OF THE REPORT

	a. CLEARANCE AUTHORITY		i. WATER LANDING AREA	X	q. CRASH AND RESCUE
	b. FLIGHT PLANNING INFORMATION SOURCE		j. APPROACH ZONE		r. SEARCH AND RESCUE
	c. LANDING AIDS (GCA, CCA, ILS, etc.)		k. END ZONE (overrun)		s. CATAPULT
X	d. TRAFFIC CONTROL TOWER (field or ship)		l. SHOULDERS		t. ARRESTING GEAR (Carrier)
	e. APPROACH AND ENROUTE AIDS TO NAVIGATION		m. TAXIWAY		u. BARRIER OR BARRICADE (field or ship)
	f. RUNWAY WATCH		n. PARKING AREA		v. FLIGHT DECK
	g. LANDING SIGNAL OFFICER		o. EMERGENCY ARRESTING GEAR (Runway)		w. MIRROR
	h. RUNWAY		p. A/C SERVICING, HANDLING AND DIRECTING (field or ship)		OTHER (Specify) x.

2. SHIPS DATA

a. EQUIPMENT INVOLVED: ☐ CATAPULT ☐ ARRESTING GEAR	b. PRESSURE SETTINGS	c. WIND OVER DECK	d. RELATIVE HEADWIND	e. APPROACH SPEED (SPN-12 READING)

f. MARK NUMBER	g. MODEL NUMBER	h. LOCATION ON SHIP	i. LAUNCHING BRIDLE AND CONFIGURATION USED

j. CATAPULT/ARRESTING GEAR BULLETINS OR NOMOGRAMS USED

k. This portion shall be completed whenever (1) a major aircraft accident involves arresting gear, barrier and/or barricade equipment, or (2) an aircraft accident involves malfunctioning of arresting gear, barrier and/or barricade equipment. Minor accidents or routine damage to cables, weldings and other expendable components need not be reported.

ENGAGED	DECK RUNOUT (FT.)	RAM TRAVEL (IN.)	CONTROL VALVE SETTINGS: CONSTANT PRESSURE DOME (P.S.I.)	CONTROL VALVE SETTINGS: CONSTANT PRESSURE RATIO	CONTROL VALVE SETTINGS: CONSTANT RUN-OUT (WT. LBS.)	ACCUMULATOR PRESSURE (PSI)	COMMENTS (for cable failure specify number of landings and months in service)
DECK PENDANT							
DECK PENDANT							
BARRIER							
BARRIER							
BARRICADE							

PART	SECTION	ITEM	PART III REMARKS (Continue on additional sheets)
I	A	5	Enclosures: (9) Resumé of Pilot's Total Flying Experience (10) Aircraft Crash Fire Report (NAVAER 2325) (Original AAR only) (11) Medical Officer's Report (OPNAV Form 3750-8) (Original AAR only)

14

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COST DAMAGE TO:

GOVERNMENT PROPERTY: None

PRIVATE PROPERTY: None

DATE SUBMITTED TO C.O.: 10 November 1960

PART IV - SIGNATURES OF THE BOARD

(b) (6)	VF Project Officer	(b) (6)	A/C Maint. Off.
LTCOL, USMC,	UNIT BILLET	LCDR, USN,	UNIT BILLET
(b) (6)	Flight Surgeon	(b) (6)	VA Project Off.
LCDR, MC, USN,		LCDR, USN,	
(b) (6)	Avn. Safety Officer	(b) (6)	Meteorology Off.
LCDR, USN,		LCDR, USN, NAS PaxRiv., Md.	

PART V - The Accident

A. MAJOR (b) (6) became airborne from runway 2 at approximately 0907Q, 25 October 1960, in A4D-2N, BuNo 145072, to evaluate a 2" standby attitude gyro system. While airborne a practice loft maneuver, five or six slow rolls, one VFR TACAN penetration and GCA were performed with all airplane systems and accessories operating normally.

B. After approximately 45 minutes of flight, MAJOR (b) (6) in A4D-2N, BuNo 145072, was cleared by the Patuxent River Tower for a right-hand approach to and landing on runway 24. The Tower clearance included the existing surface winds WNW 15 knots and instructions to land beyond the emergency chain arresting gear rigged for runway 6, located approximately 2300 feet from the approach end of runway 24.

C. MAJOR (b) (6) executed a normal right-hand break and landing approach that necessitated a long straight away to clear the chain gear rigged for runway 6, and touched down on the center of runway 24 at 130 KIAS, approximately 2600 feet from the approach end. Shortly after touchdown a right crosswind lifted the right wing causing the airplane to swerve to the left out of control and the airplane ran off the left side of runway 24 at an estimated 100 KIAS, approximately 5600 feet from the approach end. The airplane continued off runway 24, crossed runway 13-31, currently under construction, struck a six-foot earth embankment which sheared the landing gear, and finally came to rest on the fuselage and two wing tanks approximately 2400 feet after leaving the runway. The pilot abandoned the airplane unaided and the crash crew extinguished a fuel-grass fire ignited as the airplane slid across a concrete taxiway.

15

PART VI - Damage to Aircraft

A. The first damage sustained by the airplane occurred while crossing runway 13-31 where the wing tank tail fairings and a portion of the right wheel assembly were sheared from the airplane. The major portion of the damage was sustained when the airplane, travelling at an estimated 80 knots in a three-point attitude, struck a six-foot earth embankment, became airborne for approximately 140 feet and then struck the ground again at an estimated 35° angle. The earth embankment was approximately 1700 feet from the point the airplane left the runway, enclosure (2).

B. The airplane received the following damage:

1. Fuselage station 64 to 175 demolished, lower section; electronics package damaged; nose gear sheared; nose gear doors demolished; nose gear up lock mechanism and attached hardware damaged.

2. Skin buckled and plate cracked station 125 to 223 (lower fuselage); fairings demolished right bomb rack; right-hand flap buckled, distorted, all rivets sheared; right main landing gear sheared; lines, locks and hardware damaged beyond repair; main landing gear doors demolished.

3. Hole punched through wing at station 26.7 (right-hand); skin buckled center wing section lower at station 26.7 leading edge to trailing edge; arresting hook access door buckled and bent, safety cable frayed.

4. Left main landing gear twisted, scissors broken; left bomb rack cracked, sheared; left flap buckled, distorted, cracked, rivets sheared; hole punched in left wing at station 27 top and bottom; main spar buckled left wing; skin torn and buckled, lower left wing; rivets sheared, top left wing; fuselage cracked at station 262, left-hand side; formers and frames cracked at station 262; skin cracked fuselage station 128 left-hand side.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

16

5. Formers, longerons and frames cracked, sheared and torn from fuselage station 64 to 125; exterior skin buckled right-hand intake duct from leading edge to station 223; rivets sheared interior skin right-hand intake duct; upper lip right-hand intake duct dented and creased; external lower skin from station 180 to station 223 burned and buckled lower section fuselage; skin buckled right-hand aft section forward of speed brake; skin buckled, burned from tail hook attach point to exhaust opening (tail section lower); right-hand speed brake external skin buckled, bent.

PART VII - The Investigation

A. MAJOR (b) (6) has acquired a total of 260.8 flight hours in A4D type airplanes including 55.3 flight hours and 70 landings in A4D-2N, BuNo 145072.

B. The flight was a properly scheduled flight appearing on the Service Test Flight Schedule of 25 October 1960.

C. MAJOR (b) (6) was aware of the critical crosswind handling limitations of the A4D type airplane as indicated by a briefing he conducted at an all pilots meeting on this subject the day prior to the accident.

D. MAJOR (b) (6) personally contacted the NAS Patuxent River Weather Service Office prior to this flight and obtained the local surface wind conditions affecting this flight.

E. The local surface winds and weather as forecast for this period 25 October 1960, by the NAS Patuxent River Weather Service Office, enclosure (6), were Westerly 12-16 knots with gusts to 22 knots becoming Northwesterly by noon with occasional stronger gusts to 28 knots. Flight conditions VFR, mostly clear, with visibility unrestricted. The actual surface wind force and direction, enclosure (6), substantiate this forecast and were in fact 270°T 13 knots at 0800Q, 280°T 12 knots at 0815Q and 270°T 12 knots at 0830Q, 300°T 12 knots gusts to 22 at 0900Q (time of take-off) and WNW 295°T 13 gusts to 20 at 0955Q (time of landing). As MAJOR (b) (6) departed the Service Test flight line he received and acknowledged the following information from NAS Patuxent River Tower, enclosure (5), "Roger 072, runway 2, wind WNW 15 to 20, altimeter 29.94, time 1259Z."

F. MAJOR (b) (6) was aware, prior to this flight, that runway 13-31 was under construction and that the only available runways for normal landings at NAS Patuxent River were 6-24 and 02-20. Runway 9-27 is not officially closed by NOTAM or other official directives; however, landings on this runway have been restricted to Flight Test Division project arrested landings and emergency arrested landings during the past several years due to rough surface conditions.

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G. The pilot's statement, enclosure (1), indicates that no directional control difficulties due to surface wind were encountered during taxi or take-off and no airplane system or accessory malfunctions were noted during flight. External configuration at take-off included two 300 gallon empty fuel tanks on the wing racks. The six yellow sheets (Part C OPNAV Form 3760-2 Rev 7-56) previous to this flight indicated no downing gripes.

H. MAJOR (b) (6) in A4D-2N, BuNo 145072 (Studio 072), was cleared for a right-hand break to runway 24 (enclosure (4)). Patuxent Tower reported surface winds at this time to be WNW 15 knots, enclosure (5). Approximately 3 minutes later Studio 070 requested landing instructions and was cleared by Patuxent River Tower for a touch-and-go landing on runway 24, winds WNW 10 gusts to 20. Actual surface winds at this time were WNW 295° T 13 gusts to 20 knots, enclosure (6).

I. MAJOR (b) (6) made no request to land on a runway other than runway 24 after receiving the existing surface winds report from the Tower.

J. MAJOR (b) (6) was cleared by Patuxent River Tower to land beyond the emergency chain arresting gear on runway 24 "approximately 1500 feet from the approach end," enclosure (5). The emergency chain arresting gear was rigged for operations on runway 6 and was in fact actually 2300 feet from the approach end of runway 24.

K. The approach airspeed of A4D-2N 145072 was approximately 140-145 KIAS with 1/2 flaps, gear down, speed brakes in. Power was reduced to idle upon crossing over the chain gear at approximately 50-75 feet and touchdown was made on the main landing gear in the center of the runway an estimated 2600 feet from the approach end of runway 24.

L. No black skid marks, indicating application of wheel brakes, were found on the runway at any point along the estimated track of the airplane from touchdown to leaving the runway (enclosure (3)).

19

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

M. For approximately 100 feet prior to leaving the edge of the runway, at the 5600 foot mark, the main wheels left two distinct white skid marks apparently caused by sideward abrasive action of loose gravel between the tires and the runway. The airplane left the runway in a three-point attitude as indicated by the three wheel impressions through the grass. The distance between the main landing gear wheel marks was 93.0 inches and the distance between the nose wheel mark and the right main wheel mark was 42 inches at the point the airplane left the runway. The tread of the A4D-2N airplane is 93.5 inches. The airplane left the runway at an angle of approximately 15°.

N. The first 850 feet of ground over which the airplane travelled after leaving the runway was composed of soft, damp, grass-covered sod. The three wheels left only shallow imprints with indications of momentary right brake application approximately 600 feet after leaving the runway.

O. The airplane continued down a hard packed dirt construction road adjacent to the runway, crossed a 50-foot wide concrete section of runway 13-31, spanned an excavated area 25 feet wide by 2 feet deep and landed again on an island of concrete in the center of the runway under construction. From this point the airplane spanned another excavated area 25 feet wide by 2 feet deep and struck the far edge of the excavated concrete with the main landing gear shearing a part of the right wheel assembly, enclosure (2).

P. Two hundred twenty-five feet after crossing runway 13-31 and approximately 1650 feet after leaving runway 24, the airplane struck a 6-foot earth embankment at an estimated 80 knots, shearing the right main landing gear and nose gear and collapsing the left main landing gear (enclosure (7-1) and (7-2)). The airplane became airborne at this point for approximately 140 feet, struck the ground again at an estimated 35 degree nose down angle and slid on the external wing fuel tanks and fuselage approximately 625 feet, coming to rest facing 310° magnetic (enclosures (3) and (8)).

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

2D

Q. While the airplane was still in motion, MAJOR (b) (6) attempted to secure the engine by placing the throttle in the OFF position. He was unable to do so because the quadrant friction was set too tight. MAJOR (b) (6) then attempted to place the manual fuel shut-off valve in the emergency OFF position, but was unable to do this because two hands are required to perform this operation. The engine was finally secured by MAJOR (b) (6) utilizing both of the above procedures after the airplane came to rest, enclosure (1).

R. A fuel-grass fire, ignited as the airplane slid across a concrete taxiway, burned up to the stopped airplane but was extinguished almost immediately by the crash crew (enclosure (10)). The internal fuel cells had been ruptured and the internal fuel cells were empty when the investigating officers arrived at the scene 12 minutes after the accident. The two 300 gallon external wing tanks were empty throughout the flight.

S. During the ground run, after leaving the runway, and especially during and subsequent to striking the six-foot earth embankment, the pilot experienced a severe pounding in the small of his back. On final impact with the ground he was thrown forward and his oxygen mask contacted the glare shield. The following difficulties were experienced by the pilot during exit from the airplane:

1. Required two hands to place manual fuel shut-off valve to the emergency OFF position.

2. Unable to operate the pilot release handle with his right hand due to right hand and forearm being nearly incapacitated from fatigue.

3. Escape from the parachute required that all four rocket jet fastenings be released with his left hand for same reason.

4. Seat pan-oxygen mask hose required manual separation.

5. Canopy opened only half way.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

21

MAJOR (b) (6) abandoned the airplane unaided and was clear of the airplane prior to arrival of rescue personnel. Medical Officers report is set forth in enclosure (11).

T. The NAS Patuxent Weather Service anemometer is located on a 13-foot pole approximately 900 feet NNW of the intersection of runways 13-31 and 6-24 and approximately 4250 feet from the estimated touchdown point of A4D-2N 145072 on runway 24. The anemometer was calibrated on 26 July 1960 and found to be accurate within a fraction of one knot at windspeeds between 12 and 25 knots, enclosure (6). The surface wind direction indicator located in the NAS Patuxent River Control Tower is calibrated to indicate wind direction in degrees magnetic. The surface wind direction indicator located in the NAS Patuxent River Weather Service Office is calibrated to indicate wind direction in degrees True. Wind direction as indicated in enclosure (6) is in degrees True. Magnetic variation in the Patuxent River area is 7°15'W.

U. The canopy was removed from the airplane to facilitate ejection seat removal. The canopy was replaced, the air bungee cylinder inflated to the proper pressure and several close-open cycles performed to determine actual operation of the canopy. During each cycle the canopy opened slightly slower than normal to a position approximately 2 inches less than full open (as measured from the forward rim of the canopy). The canopy would remain in this position, or if pushed to the full open position, would remain there. No leaks were detected in the air bungee system subsequent to the accident.

V. 1. A static engine acceleration check was performed with A4D-2N, BuNo 145070, and the following average times were obtained:

a.	IDLE to 100%	13.1 seconds
b.	80% to 100%	3.3 seconds
c.	IDLE to 80%	8.0 seconds

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

2. During actual wave-off acceleration tests conducted by the Board, with an identically configured A4D-2N airplane, it was determined that an average of 9 seconds was required for the engine to accelerate from the idle throttle position to 100%. These tests were conducted during landing roll out at approximately 110 KIAS. Approximately 120 knots were required to become airborne at this weight (1800 pounds internal fuel) with flaps up, speed brakes in. Maximum distance utilized to become airborne after power application was 1400 feet.

3. The length of this flight and the altitudes at which it was flown are not conducive to inducing fuel control hang up normally associated with cold soak fuel.

4. At idle RPM the engine of an A4D-2N airplane ran for 11 seconds after the manual fuel shut-off valve was placed in the emergency position.

W. With the throttle in the IDLE position, MAJOR (b) (6) used the following technique to correct for the crosswind conditions:

1. Extended speed brakes after touchdown.
2. Raised flaps.
3. Applied nose down elevator.

As the airplane rotated nose down the right wing lifted 10-15 degrees, then MAJOR (b) (6) :

4. Applied full right rudder and brake, full nose down elevator and full right aileron.

X. The crosswind component computed from the surface wind existing at the time of landing, WNW 302°M, 13 gusts to 20 knots, is as follows: Runway 24 is actually 236° Magnetic

SURFACE WIND	CROSSWIND COMPONENT
13 knots	12 knots @ 90°
15 knots	14 knots @ 90°
20 knots	18 knots @ 90°

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

#4 23

Y. The NAS Patuxent River Control Tower operator confused the call numbers of the two A4D-2N airplanes in the traffic pattern just prior to the accident and instructed 072 to orbit the field when actually 072 was the airplane involved in the accident and 070 was still airborne, enclosure (5). The first word received by the Service Test Duty Office from NAS Operations was that 070 was involved in the accident.

PART VIII - The Analysis

A. MAJOR (b) (6) is considered well qualified in the A4D-2N airplane and to perform the mission of this scheduled flight. MAJOR Bacas has had considerable and close association with the acceleration characteristics of the J65 engine installation in the A4D airplane in the recent past during the prosecution of NATC projects. MAJOR (b) (6) statement, enclosure (1), indicates that he was also completely familiar with the crosswind landing characteristics and limitations of the A4D airplane.

B. The crosswind handling characteristics of the A4D airplane become critical at crosswind components greater than 15 knots @ 90°. It is not impossible to land safely with a crosswind component larger than 15 knots @ 90°; however, at this point and above there is certainly less room for pilot technique error and an increase in the probability that an alternate course of action should be followed. MAJOR (b) (6) was informed by the NAS Patuxent River Ground Control while taxiing to take-off position that the take-off runway was 02 and the surface wind was WNW 15 to 20. In view of the fact that the winds were Westerly when he first contacted the Weather Service Office and forecast to become Northwesterly by noon, the WNW winds report received by MAJOR (b) (6) at this time should have indicated to him that the existing crosswind was critical and predicted to become even more critical.

C. Prior to landing MAJOR (b) (6) was informed by NAS Patuxent River Tower that the surface winds were WNW 15. A4D-2N 070 was informed by NAS Patuxent River Tower at about this same time that the surface winds were WNW 10 gusts to 20 knots. MAJOR (b) (6) statement indicates the winds were reported as West to Northwest 10-15 knots, possible gusts to 20 knots. MAJOR Bacas had evidently also received the transmission directed to A4D-2N 145070 concerning the surface winds and included this information in his estimate of the crosswind situation. Had MAJOR (b) (6) been the only airplane in the NAS Patuxent River area at this time, a strong possibility exists that he would not have been informed concerning the wind gusts to 20 knots. This particular point is not considered a cause factor in this accident; however, it should

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

be emphatically brought to the attention of all Control Tower personnel that information concerning force of peak gusts is equally or even more important to the landing pilot than the average wind force. The difference between the wind force and direction as transmitted by NAS Patuxent River Tower, as understood by MAJOR (b) (6) and as recorded in the NAS Patuxent River Weather Service Office, is considered to be insignificant.

D. At the time of landing, the maximum crosswind component on runway 24 with a WNW 295°T 20 knot gust was 18 knots @ 90° from the right. The Board considered that MAJOR (b) (6) realized there was a sizeable crosswind component and had he computed the actual crosswind component he would have known that the crosswind was in fact critical and in excess of 15 knots @ 90°. MAJOR (b) (6) returned to the field with sufficient fuel to divert to a suitable airfield but elected to land at Patuxent River knowing the existing critical wind condition as reported by the Tower.

E. MAJOR (b) (6) was instructed by Patuxent River Tower to land beyond the chain gear when he first contacted the Tower and again after he reported on the base leg during his landing approach. By his own statement, MAJOR (b) (6) was distracted and his attention diverted from a dangerous landing situation because he was required to look for and land beyond the chain gear. The Board considered that Tower instructions of this type are common and should not distract an experienced pilot sufficiently to materially affect his concentration on the immediate problem at hand - that of landing the airplane.

F. MAJOR (b) (6) crosswind landing technique must be suspect. He lost control of the airplane in a crosswind that was critical but not considered beyond the control capability of the airplane. By reducing the power to idle 50-75 feet above the runway in one swift movement, MAJOR (b) (6) initiated an instant transition from a situation where he had full control of the airplane with power and flight controls to an unpredictable situation on the runway. The necessity to reduce power for deceleration after touchdown is recognized; however, power should be reduced judiciously to transition at a rate that the corrective action required can be recognized and applied while still retaining a wave-off capability.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

G. The J65 engine installation in the A4D airplane has comparatively slow acceleration characteristics from idle to 100% and a history of fuel control hang-ups, both facts known by MAJOR (b) (6) . The fact that the pilot stated the engine responded normally the second time he jammed the throttle forward does not conclusively indicate that the fuel control malfunctioned during the first attempt. The possibility exists that MAJOR (b) (6) allowed insufficient time for the engine to accelerate the first time. MAJOR (b) (6) stated during further questioning that he did not look at the engine RPM gage at this time but based his statement on the fact he did not hear the engine speed increase or feel additional thrust.

H. The possibility also exists that the fuel control or engine did malfunction to a degree. The degree of malfunction would dictate the probability of the pilot to recover from an out of control situation by executing a wave-off, and is unknown at this time.

I. MAJOR (b) (6) normally sets the quadrant friction during take-off and landing to a position which assures him that the throttle will not "creep". The A4D-2N throttle handle has only approximately 1/8 inch clearance as it is moved from the idle detent position around to the OFF position. MAJOR (b) (6) inability to secure the engine by placing the throttle in the OFF position as the airplane careened along is easily understood and was not necessarily due to quadrant friction alone. Placing the manual fuel shut-off valve in the emergency OFF position is at best a very difficult one-hand operation. Under any but ideal conditions two hands would be required; and while the airplane was still in motion, MAJOR (b) (6) was in no position to divert his full attention to this problem. Having a manual fuel shut-off switch that could easily be inadvertently placed in the emergency OFF position is neither desirable nor acceptable; however, a manual fuel shut-off switch requiring two hands to operate could, under certain circumstances, be equally hazardous and undesirable. Residual thrust of the A4D-2N airplane at idle is appreciable. Securing the engine immediately upon determining a wave-off was not possible would have significantly shortened the roll out of the airplane.

J. Lateral restraint in the A4D-2N RAPEC seat is considered to be excellent. Longitudinal restraint prevented serious injury although MAJOR (b) (6) complained about the pounding he received in the small of his back and his face mask contacted the glare shield during the final impact with the ground before sliding to a stop. The RAPEC seat has been released to Douglas Aircraft Corporation for engineering analysis.

K. Prompt action by the NAS Patuxent River Crash Crew limited fire damage to the airplane to a minimum.

PART IX - Comments

A. The pilot's decision not to divert but to attempt a landing under critical crosswind conditions greater than 15 knots @ 90° is not consistent with the briefing he conducted the day prior to the accident.

B. The strong and gusty crosswind conditions existing on runway 24 at the time of landing were instrumental in raising the right wing of the airplane and precipitating the eventual uncontrolled sequence of events.

C. The crosswind landing technique used by the pilot after touchdown was untimely and effecting an immediate recovery with application of engine power for wave-off was jeopardized by landing with the throttle in the idle position.

D. If the fuel control in fact malfunctioned, the capability of assisting recovery by application of power may not have existed.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70
OPNAVINST 3750.6D

3209

PART X - Recommendations

A. It is recommended that:

1. A crosswind component of 15 knots @ 90° be established as a recommended maximum for the A4D-2N airplane and included in official directives.

2. Continuing command emphasis be given to education of all pilots concerning crosswind limitations and landing techniques of assigned aircraft, especially in regard to power application.

3. A crosswind component computer be made available to Control Tower personnel and crosswind component information be included in Tower transmissions concerning other wind data when crosswind component exceeds 10 knots.

4. The Control Tower include peak wind gusts at all times when questioned about surface wind conditions.

5. Effort be directed toward design and installation of a manual fuel shut-off switch that would prevent inadvertent operation but at the same time be easily operable with one hand.

25 October 1960

STATEMENT of MAJ (b) (6) USMC, Pilot of A4D-2N BuNo 145072 concerning aircraft accident at NAS PATUXENT RIVER, MARYLAND at approximately 0955Q 25 October 1960.

On 25 October 1960, I was properly scheduled as pilot of model A4D-2N BuNo 145072, for a 0900 launch in prosecution of a maximum effort level WEPTASK PROBLEM RAVP023, "Evaluation of Standby Attitude Indicating Systems". The airplane configuration was full internal JP-5 fuel and empty 300 gallon drop tanks.

At 0810 I called Station Aerology and requested wind over the runways in order to ascertain if it was feasible to undertake the flight in view of the A4D-2N crosswind restrictions and the limited runways available at NAS Patuxent River, Md. The wind report was "Westerly, 10-15 kts., duty runway 24". After manning the airplane and leaving the chocks at 0903, Patuxent Ground Control advised that the take-off runway was 2, winds were West-Northwest 10-15 kts. On switching to Tower frequency, I was given take-off clearance for runway 6. Further interrogation of the Tower personnel resulted in my being cleared for take-off on runway 2. At this point, wind conditions were not considered marginal. The airplane had been taxied from the line area to the runway area without difficulty or excessive use of wheel brakes. It was noted that an A4D-2N airplane had just taken off on runway 2 without apparent difficulty. Just prior to my take-off, an R4Y airplane was taking a wave-off from a touch and go landing on runway 24.

An uneventful Military Rated Thrust (MRT), half-flap take-off was executed on runway 2. Crosswind effects were negligible. During climb out to 27,000 feet, all airplane systems operated normally. Within 10-15 minutes after take-off, at Tylerton holding fix I requested, and was granted, a TACAN penetration with a GCA pickup.

During the TACAN #2 penetration, power was reduced to 82% RPM and speed brakes were extended. A normal GCA approach to a wave-off was made to runway 6. Light to moderate turbulence was experienced but crosswind effects (drift on final glide

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

slope) were again negligible. However, forward speed over the ground appeared excessive for my approach speed (150 KIAS), and I felt as if the wind were from the tail (westerly). I left the GCA pattern and climbed to 5000 feet to further obtain project data points during mild acrobatic maneuvers.

Approximately 45 minutes after take-off, I requested landing instructions from the Tower and was cleared to report on initial over runway 24. Winds were reported as West to Northwest, 10-15 knots, possible gusts to 20 knots. A right hand break to runway 24 was executed, power was reduced to 80% RPM and speed brakes were extended. At the abeam position, landing gear and half flaps were extended, speed brakes retracted, and a gear check was given to the Tower. At this point the Tower rogered and advised me to "check and AD lifting". At the 90° position, I was advised to land approximately 1500 feet down the runway, past the chain gear. During the final straightaway portion of the approach, 300-400 feet altitude and 140-145 KIAS, I noticed no excessive airplane drift, and continued up the centerline of the runway at 50-75 feet of altitude looking for my specific touchdown point. As I crossed the chain gear, power was reduced to idle, a touchdown on the main gear was executed, and speed brakes were extended. Touchdown was made at 130 KIAS with 1800 lbs. of fuel remaining.

The flaps were immediately retracted, and forward stick was applied to get the nose gear on the runway in anticipation of possible crosswind effects. As the airplane rotated nose down, the right wing was lifted rapidly 10-15 degrees. Full right rudder and brake plus full nose down stick and full right aileron did not correct a severe swerve (20°-30°) to the left. Speed brakes were retracted and an immediate throttle movement to full forward (MRT) was made with no apparent engine response for a wave-off. While still on the runway, the throttle was pulled aft and again jammed full forward resulting in proper engine response.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

At this point the airplane's flight path had progressed off the runway onto the grass and in direct line with construction equipment and motor vehicles. Pilot attention was devoted exclusively to airspeed and projected track over the ground with a possible view towards use of the RAPEC seat. In view of an indicated airspeed of 80-85 KIAS, it was decided to secure the engine and maneuver the airplane as much as possible. Two attempts to bring the throttle around the idle detent to the CUTOFF position were unsuccessful due to my having positioned the throttle friction lock sufficiently tight to prevent throttle creep. It was not possible to move the Manual Fuel Shutoff Valve to the OFF position until after airplane motion had stopped due to the requirement for raising the spring loaded guard and actuating the lever with one hand.

At no time after leaving the runway did I attempt to retract the landing gear or jettison the empty wing tanks in the hopes that those components would absorb initial ground impacts.

Although tightly strapped into the ejection seat restraint system, it was noted that severe pounding was experienced in the small of the back during the uncontrolled ground run.

On final impact with the ground my oxygen mask (secured to my face) absorbed all impact forces when my face struck the glare shield coaming.

Opening the canopy manually resulted in the canopy going to the half open position and complicated ground escape. Escape from the parachute was effected by releasing the four rocket jet fittings with my left hand and holding the canopy open with my right elbow. My right hand and forearm were so fatigued from grasping the control stick that I could not use the Manual Ditching Handle. It was noted that on leaving the cockpit the oxygen hose did not disconnect until I released the spring cover of the seat pan hose from my oxygen mask hose which was equipped with a metal retaining clip.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

33
34

(b) (5)

[redacted]

I am completely familiar with the crosswind limitations of the A4D series airplane (090° @ 15 kts.). In prosecution of past project work, it has been determined that successful crosswind landings had inadvertently been executed in this airplane under wind conditions far in excess of those quoted in this statement due to erroneous Tower wind reports.

As project pilot of the A4D-2/2N series airplane at Service Test Division, it has been policy not to launch flights when wind conditions reported were in excess of airplane limits. With the repair of runway 13-31, it has further been policy to return to base with sufficient fuel to assess landing conditions (significant wind changes from time of take-off) and if necessary to divert to a field offering more optimum landing conditions. It is significant to note that due to local wind conditions, project flights in the model A4D-2N series were cancelled during the period 20-24 October 1960.

In this instance it was my intention to execute a normal landing approach to the assigned runway, and if there were any question of a successful landing, to divert to NAS Oceana. It is considered that the Tower instruction to "land 1500 feet down the runway, past the chain gear" was a significant factor in diverting my attention from a dangerous wind condition during landing (b) (5)

[redacted]

(b) (5)

[redacted]

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70
OPNAVINST 3750.6D

(b) (5) [redacted]

I was designated a Naval Aviator on 31 May 1952. I have a total of 2321.1 flight hours in heavier-than-air aircraft.

(b) (6) [redacted]

MAJOR, USMC, (b) (6) [redacted]

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70
OPNAVINST 3750.6D

Transcription of A4D Studio 072's take-off on 25 October 1960

072	Patuxent ground control (garbled) zero seven two, over.
G/C	Roger, zero seven two runway two, wind west northwest fifteen to twenty, altimeter nine nine four, time one two five nine.
072	Seven two, roger.
072	Patuxent Tower studio zero seven two for take-off.
Tower	Studio zero seven two taxi in position and hold, beyond six.
072	Patuxent Tower this is studio zero seven two was that runway six, over?
072	Patuxent Tower studio zero seven two did you say runway six, over?
Tower	Zero seven two negative, runway two.
072	Roger.
Tower 0539 3/4	Zero seven two cleared for take-off runway two.
0540	Seven two.

This is certified to be a true transcription of the take-off of A4D Studio 072 on 25 October 1960.

(b) (6)

LCDR USN

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

Transcription of A4D Studio 072's landing on 25 October 1960

072	Zero seven two Point Lookout for landing, over.
Tower	Aircraft on three eighty say again.
072	This is Studio zero seven two Point Lookout for landing, over.
Tower	Zero seven two check the break, two four.
072	Understand break, two four, could you give me the winds on the that runway?
Tower	Zero seven two west northwest one five, you'll be landing beyond the chain gear.
072	Ah, roger.
070	Patuxent Tower, Studio zero seven zero ten south for touch and go landings, give me the winds, over.
Tower	Zero seven zero winds west northwest one zero gusting to two zero.
070	Request touch and go landings, over.
Tower	Zero seven zero say again.
070	Zero seven zero request touch and go landings, over.
Tower	Check the break, two four right traffic.
070	Roger, two four.
070	Tower this is Studio zero seven zero was that runway two four, over.
Tower	Zero seven zero that's affirmative check the break, two four.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

Tower	Zero seven two caution the JD lifting off of two.
072	Zero seven two, roger.
072	Zero seven two abeam gear is down and locked, over.
Tower	Zero seven two land beyond the chain gear approximately one thousand five hundred feet down the runway, cleared to land.
072	Seven two.
070	Tower Studio zero seven zero in the break, over.
Tower	Zero seven two, a right break.
070	Seven zero.
070	Tower zero seven zero turning base gear is down and locked, touch and go.
Tower	Zero seven two, beyond the chain gear approximately one thousand five hundred feet down the landing runway. Cleared to make touch and go landing.
070	Zero seven zero.
Tower	Zero seven two orbit the field.
070	Zero seven zero orbit the field okay (garbled).

This transcript is certified to be a true transcription.

(b) (6)

LCDR USN

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

U.S. NAVAL AIR STATION
PATUXENT RIVER, MD.

ORIGINAL

2 November 1960

Assistant Weather Service Officer
To: Whom It May Concern

Subj: Summary Of Weather Conditions From 0830Q to 1030Q on 25 Oct 1960

1. The following is a summary of weather conditions that existed at 0955Q, 25 October 1960, taken from the official weather records of the Weather Service Office, Patuxent River, Maryland:

a. Ceiling - Unlimited
b. Visibility - 15 miles
c. Wind direction - WNW - 295°
d. Wind speed - Average 13 knots with gusts to 20 knots
e. Weather - Gusty surface winds
f. Cloud cover - None

2. The local forecast winds and weather from 0830Q to 1030Q was:

a. Flight Conditions and Weather - VFR - Mostly Clear
b. Visibility - Unrestricted
c. Surface Winds - Westerly 12 - 16 knots with gusts to 22 knots becoming Northwesterly by noon with occasional stronger gusts to 28 knots.

3. The actual wind force and direction as recorded were:

TIME(Q)	DIRECTION	SPEED(knots)
0830	W 270°	12
0840	WNW 295°	15
0850	WNW 295°	15 gusts 26
0900	WNW 300°	15 gusts 26
0910	WNW 300°	15
0920	WNW 300°	15
0930	NW 325°	15 gusts 24
0940	WNW 300°	14 gusts 22
0950	WNW 300°	15 gusts 21
1000	WNW 300°	13 gusts 20
1010	WNW 300°	13 gusts 20
1020	WNW 300°	14 gusts 20
1030	WNW 305°	15 gusts 22

(b) (6) [redacted]

CHAERO USN

ORIGINAL

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70
OPNAVINST 3750.6D

ORIGINAL

NAVAL WEATHER SERVICE
U.S. NAVAL AIR STATION
PATUXENT RIVER, MD.

3 November 1960

To: Whom it May Concern
From: Assistant Weather Service Officer

Subj: Calibration of AN/UMQ-5C, Wind Measuring Set

1. The following are the results of the calibration of the AN/UMQ-5C which was made on 26 July 1960 by (b) (6) AGC and (b) (6) AG1:

INPUT VOLTAGE AT TRANSMITTER	CORRECT READING	ACTUAL READING
1.52V	12.38 knots	12.6 knots
3.1V	25.48 knots	25.6 knots
12.9V	106.03 knots	102.8 knots
3.1V	25.48 knots	25.6 knots
1.5V	12.33 knots	12.5 knots

(b) (6)

CHAERO USN

ORIGINAL

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70
OPNAVINST 3750.6D

Enclosure (6)

Statement of LCDR [redacted], USN, [redacted]
Regarding Aircraft Accident Concerning A4D-2N 145072
Occurring at Approximately 0955 25 October 1960

I was proceeding on taxiway "L" to the arresting gear site on 9-27 and had been told to hold before crossing 24, the duty runway. I stopped and waited about one hundred feet from the edge of the runway. I watched the A4D in its approach, noted that it landed long (about the 2-3 thousand foot marker) and that it looked fast and flat. As it came closer I still could not see the gear (crown of 13-31 and field construction equipment) but it looked fast. As it approached 13-31, I could see that it was on the left side of the centerline, then that it was off in the grass. The aircraft did not seem in great difficulty until it crossed 13-31 when it appeared to bounce several times and lose its gear. As it neared "H" it bounced up, went nose over, right wing down and I though it was going over. I saw flames about the time it crossed Hotel and the aircraft slowed noticeably from then on. Midway between "H" and "O" the aircraft slewed around to the right and skidded to a stop.

As the aircraft crossed between 13-31 and "H", I called "crash" several times on the FM crash circuit and started after it in the LSO jeep. As I approached I could see the pilot attempting to get out of the cockpit so I drove up to the left wing tip to give him assistance. The only fire visible at the time was in the grass about 30 feet from the right wing tip. When I got out of the jeep the pilot was leaving the left side of the cockpit and did not appear injured. I was attempting to seat him in the jeep when the tail of the A4D, smoking at first, burst into flame. I drove the jeep clear of the area so as not to obstruct the crash crew or lose the jeep in any explosion which might follow. I then seated the pilot in the jeep and awaited the ambulance.

[redacted]

I have been a designated Naval Aviator since January 1952.

[redacted]

LCDR, USN

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70
OPNAVINST 3750.6D

Statement of LTCOL [redacted], USMC [redacted] [redacted]
Regarding Aircraft Accident Concerning A4D-2N 145072
Occurring at approximately 0955Q 25 October 1960

I was seated in the Fighter Section Office in the Service Test Hangar when I glanced out of the window and observed an A4D airplane that was already in the grass off the left side of runway 24. The airplane was in a three point attitude and travelling at an estimated 80 to 85 knots with no apparent acceleration or deceleration. The airplane progressed smoothly and with no apparent difficulty until shortly after it crossed runway 31. At this point it bounced once then struck an embankment which sheared the landing gear and caused the airplane to become airborne again in a nose high attitude. While in the air the nose rotated down rapidly and the airplane struck the ground at an estimated 35° angle and skidded to a stop on its belly. A fire broke out behind the airplane shortly before it stopped but apparently never burned up to the airplane. The canopy came open and at this time the airplane was obscured by smoke from the grass fire. The Service Test Hangar is approximately 4300 feet from the spot at which the airplane stopped.

I was designated a Naval Aviator on 21 December 1943.

[redacted]
LTCOL, USMC

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70
OPNAVINST 3750.6D

Enclosure (7-2)

RESUME OF PILOT'S (MAJOR (b) (6) TOTAL FLIGHT EXPERIENCE

PERIOD	ACTIVITY	MODEL A/C FLOWN	HOURS	TYPE
8/50 to 5/52	Flight Training NABTC Pensacola Instrument Flight	SNJ	214.3	Training
		TBM	0.2	Training
		AD	159.6	Training
		SNB	2.1	Training
6/52 to 7/52	NAATC Corpus	SNB	39.5	Training
8/52 to 11/52	VMAT-10	F4U	4.0	VA
		AD	49.6	VA
		AU	26.2	VA
		SNB	2.8	Proficiency
		OE	1.1	Proficiency
12/52 to 5/53	VMA-121	AD	200.0	VA
		OE	0.5	Proficiency
		HTL	0.4	Proficiency
6/53 to 8/53	MABS-12 (Staff)	AD	12.0	Proficiency
		OE	6.3	Proficiency
		HRS	2.5	Proficiency
9/53 to 10/53	JIPB 8th Army (Staff)	AD	5.4	Proficiency
11/53 to 4/54	HQ SQ-2 (Staff)	AD	32.1	Proficiency
		F3D	7.0	Proficiency
		SNB	38.6	Proficiency
		F9F	5.6	Proficiency
5/54 to 6/56	H&MS-20 Special Weapons Trng.Unit	AD	465.8	Spl Wpns Del
		SNB	158.1	Proficiency
		F9F	9.7	Proficiency
		C-45	8.0	Proficiency
		F3D	55.8	Spl Wpns Del
7/56 to 8/57	VMF(AW) 531	AD	2.9	Proficiency
		SNB	16.0	Proficiency
		F3D	240.5	VMF(AW)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

PERIOD	ACTIVITY	MODEL A/C FLOWN	HOURS	TYPE
9/57 to 7/58	H&MS-24 (Staff)	F3D	95.1	Proficiency
		F9F	43.2	Proficiency
8/58 to 10/60	MAD PaxRiv Service Test Div. NATC	F9F	65.1	Test
		AD	20.5	Test
		FJ	10.6	Test
		F4D	6.1	Test
		S2F	21.3	Test
		T28	11.0	Test
		F11F	14.5	Test
		SNB	17.0	Proficiency
		A4D	260.8	Test
		T2J	21.0	Test
		T2V	2.6	Test
		F8U	10.6	Test
		A3D	1.3	Test
		WF2	0.7	Test
		F4H	3.1	Test

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

AIRCRAFT CRASH AND ACCIDENT REPO
PRECEDENCE 901

CONTROL TOWER

DATE	TIME	UNIT
25 Oct 1960	1353Z	Service Test
TYPE	BUNO	PILOT
A4D	Studio 072	(b) (6)

LOCATION OF ACCIDENT
In the triangle formed by Taxiway "O", Taxiway "H", and Runway 6/24.

DISTANCE TO SCENE 1 Mile	SERVICE RUNWAY 24
SKY CONDITION 0	VISIBILITY 15
WIND DIRECTION WNW	WIND VELOCITY 13 Gusts 20
TEMPERATURE 46	DEW POINT 29
RELATIVE HUMIDITY 51	TIME OF ALARM 1353Z

Give clear and concise description of accident and tower statment.

While attempting a landing on runway # 24, Studio 072 went off the left side of the runway in the vicinity of the intersections of runways 13/31 and 6/24. Fire was observed when the aircraft crossed taxiway "H". Aircraft came to rest in the triangle formed by taxiway "O", taxiway "H", and runway 6/24. During this period I was working as the ground controller.

OTHER PERSONNEL IN TOWER

(b) (6) ACT2

ACT3

RECORDER NUMBER	TRACK NUMBER
"C"	380.8
SI (b) (6)	RANK OR RATE AC1

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

NAVY-BUPO PRSC, WASH., D.C.

Enclosure (4-1)

AIRCRAFT CRASH AND ACCIDENT REPORT
PINC-NATC-901

CONTROL TOWER

DATE	TIME	UNIT
25 Oct 1960	1353Z	Service Test
TYPE	BUNO.	PILOT
A4D	Studio 072	(b) (6)

LOCATION OF ACCIDENT
In the triangle formed by taxiway "O", taxiway "H", and runway 6/24

DISTANCE TO SCENE 1 Mile	SERVICE RUNWAY 24
SKY CONDITION 0	VISIBILITY 15
WIND DIRECTION WNW	WIND VELOCITY 13 Gusts 20
TEMPERATURE 46	DEW POINT 29
RELATIVE HUMIDITY 51	TIME OF ALARM 1353Z

Give clear and concise description of accident and tower statment.

Studio 072 made an approach to runway 24, in a right traffic pattern. The aircraft landed beyond the chain gear, veered to the left on roll out, going into the construction area and grass. The gear appeared to collaspe and flames broke out trailing him. The siren had been sounded and the gear was rolled to the scene. At this time I was Tower Local controller. I issued clearance for the aircraft to enter the rattern and to land.

OTHER PERSONNEL IN TOWER

(b) (6) ACT2

ACl

RECORDER NUMBER	TRACK NUMBER
380.8	Console "C"
SIGNATURE (b) (6)	RANK OR RATE ACT3

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

NAVY-OPNAV PINC., WASH., D.C.

Enclosure (4-2)

AIRCRAFT CRASH AND ACCIDENT REPORT

PRNC-NATC-901

CONTROL TOWER

DATE	TIME	UNIT
25 Oct 1960	1353Z	Service Test
TYPE	BUNO.	PILOT
A4D	Studio 072	(b) (6)

LOCATION OF ACCIDENT

In the triangle formed by taxiway "O", taxiway "H", and runway 6/24

DISTANCE TO SCENE	SERVICE RUNWAY
1 Mile	24
SKY CONDITION	VISIBILITY
0	15
WIND DIRECTION	WIND VELOCITY
WNW	13 Gusts 20
TEMPERATURE	DEW POINT
46	29
RELATIVE HUMIDITY	TIME OF ALARM
51	1353Z

Give clear and concise description of accident and tower statment.

Studio 072 was making a landing to runway 24 in a right traffic pattern. The aircraft touched down beyond the chain gear and veered to the left and went off the port side of runway 24, approximately 1000-1500 feet from the intersection of 24 and 31. The aircraft went through the construction on runway 31, crossed taxiway Hotel, and started a grass fire. The siren was sounded and the crash equipment was rolled to the scene. At this time I was Tower Supervisor.

OTHER PERSONNEL IN TOWER

(b) (6) AC1

[redacted] AT3

RECORDER NUMBER	TRACK NUMBER
Console "C"	380.8
SIGNATURE	RANK OR RATE
(b) (6)	AC2

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

Enclosure (4-3)

DAMAGED AIRCRAFT CONDITION AND DISPOSITION REPORT
NAVAER-2980 (REV. 4-55)

Submit original and one copy without letter of transmittal to the cognizant Bureau of Aeronautics Maintenance Representative and one copy to the following activities: (1) NAVAVNSAFEACTY NAS Norfolk, (2) Controlling Custodian, (3) O&R, (4) Reporting Custodian, (5) Log Book, (6) Controlling Activity, (if ferry aircraft), (7) ComNAB, (if ferry or other transient aircraft and a ComNAB is concerned), and (8) Ferry Squadron, (if concerned).

FROM	SERIAL NUMBER	DATE
Commanding Officer, NAS, Norfolk, Virginia	97060	7 November 1960

TO
BUREAU OF Naval Weapons Fleet Readiness Representative, Eastern District

REFERENCE
(a) BUWEPSFLTREADREP EASTDIST msg 261832Z of Oct 1960 (b) BUAER INSTRUCTION 4710.1

DATE OF ACCIDENT OR DAMAGE: 10-25-60 AAR	LOCATION OF AIRCRAFT: NAS, Patuxent River	REPORTING CUSTODIAN: NATESTCEN, Patuxent River (Service Test)				
AIRCRAFT MODEL: A4D-2N	SERVICE TOUR: 1st	ENGINE MODEL: J-65W4B				
BUREAU NUMBER: 145072	MONTHS THIS SERVICE TOUR: 11	ENGINE DATA	PORT		STARBOARD	
STATUS (Flyable, non-flyable): Non-flyable	FLIGHT HOURS THIS MONTH: 18.3	ENGINE BUREAU NUMBER	W610414			
ACCEPTANCE DATE: 20 Nov 1959	FLIGHT HOURS THIS TOUR: 217.0	TIME ON ENGINE(S) SINCE NEW	439.4			
TOTAL OVERHAULS: None	FLIGHT HOURS SINCE NEW: 217.0	TIME ON ENGINE(S) SINCE OVERHAUL	102.5			

DETAILED DESCRIPTION OF DAMAGE AND PERTINENT COMMENTS

See attached sheet.

NOTE: The estimated cost of repairs is based on the condition of aircraft at site of examination and does not include reassembly of components removed to facilitate a shipment and/or damage incurred subsequent to examination.

ESTIMATED COSTS OF LABOR AND MATERIAL NECESSARY TO PLACE AIRCRAFT IN COMPLETE SERVICEABLE CONDITION

TOTAL DIRECT LABOR MANHOURS	
DIRECT LABOR COST	$
NON-REPAIRABLE ASSEMBLIES COST	$
MATERIAL COST	$
SHIPPING OR TRANSPORTING TO O&R	$
TOTAL COST	$

RECOMMENDED DISPOSITION
It is recommended aircraft be placed in category (1) strike status and shipped to DOP for salvage of usable items required for Fleet support.

The following preparatory work shall be accomplished by the operating unit prior to acceptance by the Overhaul and Repair Department for repair:

a. Remove ammunition, pyrotechnics and ejection seat charge.
b. Remove spare and loose gear.
c. Preserve engine(s).
d. Drain and purge fuel cells and disconnect battery.
e. Bring log books up-to-date and deliver with aircraft.
f. Inventory aircraft and retain copy for reference.

ESTIMATED INDUCTION DATE FOR REPAIR (Contingent on availability of material)

ESTIMATED COMPLETION DATE

SIGNATURE OF PLANNER AND ESTIMATOR
(b) (6) [redacted]

SIGNATURE (b) (6) [redacted]

COPY TO
NAVAVNSAFEACTY NAS Norfolk
Controlling Custodian BuWeps (RDT & E)
O&R Department NAS, NorVa
Reporting Custodian NATC, Patuxent River (Service Test)
Log Book
BUWEPS (FPWR-354)

DAMAGED AIRCRAFT CONDITION CONDITION AND DISPOSITION REPORT

7 Nobember 1960
Ser.No. 97.60

DETAILED DESCRIPTION OF DAMAGE

1. Lower section of nose demolished from fuselage Station 64.0 to Station 175.0.

2. Electronics package located in nose section dented and cracked.

3. Nose landing gear sheared off and broken, doors demolished.

4. Forward and aft nose gear latches, micro switches, actuators, swivels, beams, collars and brackets broken, sheared and cracked.

5. Lower fuselage skin buckled and plates cracked from fuselage Station 125.0 to Station 223.

6. Formers, longerons, frames and beams twisted, cracked and dented from lower fuselage Station 125.0 to Station 223.

7. Fairings creased, dented, torn and cracked on left and right bomb racks.

8. Left bomb rack sheared and broken.

9. Right main landing gear sheared off. Hydraulic lines, locks, micro-switches, valves, links, swivels, arms, scissors, wheel and strut twisted, broken, cracked and bent.

10. Left and right main landing gear doors and fairings demolished.

11. Left main landing gear twisted, stressed and broken. Hydraulic lines, locks, valves, links, swivels, scissors, arms, wheel and strut twisted, cracked, bent and broken.

12. Hole punched through wing bottom and top at Station 26.7 right side.

13. Center wing section (lower) skin and plates buckled, cracked and creased at Station 26.7 from leading edge to trailing edge.

14. Left and right flaps buckled, distorted and rivets sheared.

15. Hole punched in left wing top and bottom at Station 27.

16. Intermediate spar, left side of wing buckled, skin buckled top and bottom, skin torn bottom and rivets sheared top and bottom of wing left side.

17. Fuselage cracked and buckled at fuselage Station 262. Formers and frames twisted, dented and cracked.

18. Fuselage skin cracked at Station 128 left side.

19. Aft wing lower access door buckled and bent.

20. Right air intake duct exterior skin buckled from leading edge to Station 223.

21. Rivets pulled interior skin of right hand air intake duct.

22. Upper lip right hand air intake duct dented and creased.

23. Lower fuselage skin burned from Station 180 to Station 223.

24. Fuselage skin buckled right hand aft section forward of speed brake.

25. Fuselage aft section lower skin buckled, burned from tail hook attach point to exhaust opening.

26. Right speed brake exterior skin buckled and bent.

27. Integral wing fuel tanks ruptured.

1. Reporting Activity	2. Report No.	3. Date	4. Accessory Nomenclature
NAS QUONPT RI	213	11/29/60	Fuel control

5. Assembly	6.	7. Mfr's Code	8. Date Removed	9. Engine	10. Engine
MOD TJ-L2	SER 509230	06848	Unknown	MOD J65-W-4B/16A	SER 610414

11. Total Hours	12. Hours Since Last O/H	13. Date Last O/H	14. Last Overhaul Activity	15. No. Prev. O/H'S
457	231	5/18/59	NAS QUONPT	Unknown

16. Reason for Removal and Code	17. Operating Activity	18.	19.	20.
Accident damage (4B)	NATC PAX RIVER	SER 723	MOD A4D-2N	BUNO 145072

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

See attached sheet for text

DIST: (with encl (1) to each addressee)

NATSF PHILA
BUWEPS (FWAE-4)
BUWEPS (RAPP-222)
NAVAVIATIONSAFETYCEN
COMNAVAIRLANT
INDIANAPOLIS AIR PROC DIST
DOUGLAS AIRCRAFT CO.
BUWEPSFLEREADREP LANT
→NATC PAX RIVER
BENDIX REPRESENTATIVE
RIC WOOD-RIDGE
FILE

XXXXXXXXX

PRIORITY

XXXXXXXXXXXXXXX

1 of 2

21. Primary Part Failure	Cond.
No.	

22. Parts Removed	Cond.
No.	

23. Applicable ... Chgs. Etc. Number	Incorporated Yes	No

(b) (6) [redacted]

24. Title: Design and Development Supt.

25. Date: 11/29/60

DISASSEMBLY AND INSPECTION REPORT NAVAER-2491 (REV. 12-58)

Enclosure (1)

NAS QUONPT RI
Disassembly and Inspection Report No. 213
TJ-L2 Fuel control - Serial No. 509230
A4D-2N Airplane - Bu. No. 145072

Encl: (1) TJ-L2 Gas turbine fuel control P/L 190544-15, post overhaul test flow sheet

BUWEPSFLTREADREP EASTDIST msg 031930Z Nov 60 requests disassembly and inspection of fuel control serial No. 509230.

24. DESCRIPTION OF FINDINGS

The fuel control was bench tested in the as-received condition. The flow was rich on the altitude curve and slightly lean at the temperature enrichment index setting, using post overhaul test limits (see enclosure (1)). Flow was within low time check and test limits. A slight governor valve adjustment brought the control within overhaul flow limits. Complete disassembly of the control revealed only normal wear.

25. CONCLUSIONS

No indication of control malfunction was found during flow test or disassembly inspection.

26. RECOMMENDATIONS

None.

PRIORITY D.I.R. REPORT NO. 213 FLOW: AS-RECEIVED

SER. NO.	PROD.	INSP.	DATE
509230	WICARLO		11-16-60

Engine Model: J65W4B, W16A
Engine Manufacturer: W. A. D.
Installation Drawing: 190544
Service Use: Navy

Test Bench Rotation: CCW Facing Bench
Fuel Specification: MIL-F-7024A Type II
Fuel Specific Gravity: 0.765-0.775 @ 60°F
Fuel Viscosity: 1.17-1.27 Centistokes @ 70°F
Fuel Temperature: 80°-90°F

Control Model: TJ-L2
Parts List No.: 190544-15
Date Issued: 6-4-59
Date Revised: 8-4-59
Limits By: S. C. M.

Back Pressure Simulator Setting: 1,000 PPH Nozzle Flow at 58-78 psi (P5)
11,000 PPH Nozzle Flow at 275-295 psi (P5)

Test Pt.	Speed RPM	Fuel Supply PPH	Alt. "Hg. ABS.	Throttle Angle Degree	Bulb Temp. °F	Fuel Flow Min.	Fuel Flow Obs.	Fuel Flow Max.	Record per Test Conditions	Test Conditions	
1	Throttle travel 0° to 91°; no interference. Cut-off overtravel. Note 7.										OK
2	Press. Valve Check - P5 = 50 psi.						300			Record P4-P5 minimum 75 psi	OK
3	Cut-off leakage 0-12 cc/min. @ P1 = 40 psi. Throttle torque not in excess of 34 in. lb to hold close.										OK
4	Back out idle stop. Set altitude idle bleed 1/16" below flush P0 = 25 psi. Filter check valve leakage 20 cc/min. max. Remove cap.										OK
5		15700		86-90	Room		7000			P1'-P2 67-72 psi. By-pass valve setting.	OK
6	3350	15700		10-90	Room	Throttle effort 0-25 in. -lb maximum from 10° to 90°. (15' lb. @ 20°)					OK
7	Front Body Leakage 0-1 drops/min. @ P1 = 600 psi.										OK
8	3517±5	16500	29.92	86-90	+80	6500		6800		Gov. Brk. Setting and Hysteresis. Note 10.	
9	Relief Valve Opening 780-760 psi P1 pressure. Filter relief valve opening 58-60 psi.										OK
10	Filter Drop Check									10-25" Hg. P1-P1 psi @ 14,000 PPH.	OK
11	3517	16500	29.92	WO	+80					0-0.3 cc/min. Aneroid seal leakage.	OK
										Emergency System Pts. 12 thru 16.	
12	500	6250		14		1100	1070	1150		Adjust Emerg. Idle Bleed	
13	500	16500		86-90		6450	6500	6575		Adjust Emerg. Needle	
14	500	16500		86-90			5000	5400		Must be able to adjust lean to 5400 PPH	
15	500	16500		86-90		6450	6500	6575		Reset needle to limits.	
16	500	15400		55-65		3300	3600	3700		Throttle angle 55°-65° at specified flow.	56°
17	1500	7000	29.92	8	+80	500	1375			Approach from low throttle angle. Record fuel flow.	
18	1000	4500	29.92	8	+80	600	820			Approach from low throttle angle. Record fuel flow.	
19	1600	7500	29.92	14	+80					Transfer 3 times main to emergency and emergency to main.	
	Fuel flow each time in emergency within ± 25 PPH of value recorded Pt. 12. Fuel flow on main within ± 25 PPH value recorded Pt. 27 each time.										OK
	With decreasing throttle angle ignition micro switch must close by 5°. With increasing throttle angle it must open by 9°.										OK
A 20	2400	11000	29.92	WO	Blk. Bl.	2800		3050		Max. curve P2-P4 34. 5-41. 5" Hg.	
A1 21	2800	12000	29.92	WO	Blk. Bl.	3400		3550		Max. curve P2-P4 50. 0-57. 0" Hg.	
B 22	3000	14000	29.92	WO	Blk. Bl.			3850		Enrich. cam closed P2-P4 57. 5-65. 5" Hg.	
C 23	3050	14200	29.92	WO	Blk. Bl.	4000				Enrich. cam open.	
D 24	3350	16000	29.92	WO	Blk. Bl.	5720		5870		Enrich. cam stop. P2-P4 73. 0 - 83. 0" Hg.	
25	3400	16200	29.92	WO	Blk. Bl.	Within 100 PPH Pt. 24.				Enrich. cam stop check.	
J 26	1370	6500	29.92	14	+80	950		1000		Idle Gov. spring setting. Note 1.	
K 27	1600	7500	29.92	14	+80	1100	1125	1150		Idle speed setting (Wheel).	
28	1600	7500	29.92	21½°	+80	Record Throttle angle (18° - 22°) where F. F. inc. 100 PPH over Pt. 27.					

MODEL: TJ-L2
Gas Turbine Fuel Control

INSTALLATION

P. L. 190544-15

ENCLOSURE (1) to Enclosure (1)

FUEL CONTROL SERIAL NO. 509230 PRIORITY D.I.R. N

FLOW : AS-RECEIVED

	Test Pt.	Speed RPM	Fuel Supply PPH	Alt. "Hg. ABS.	Throttle Angle Degree	Bulb Temp. °F	Fuel Flow Min.	Fuel Flow Obs.	Fuel Flow Max.	Record per Test Conditions	Test Conditions
M	29	3500	17000	29.92	14	+80	1700	1775	1740		Adj. min. flow stop (min. curve).
	30	2500	11500	29.92	14	+80	710	860	950		Min. curve.
N	31	1800	8500	29.92	14	+80	750	790	800		Adj. alt. idle bleed.
O	32	1800	8500	5.0	14	+80	750	790	800		Check alt. idle adj.
P	33	500	1900	29.92	14	+80	730	780	830		Max. curve starting app. low rpm.
	34	700	3100	29.92	14	+80	790	860	910		Max. curve starting.
Q	35	1000	4500	29.92	14	+80	920	1020	1135		Max. curve starting.
	36	1000	4500	29.92	8	+80		820			Must be 100 PPH min. less than Pt. 35, Rec.
	37	1000	4500	29.92	5	+80	200	610	660		
AZ	38	1500	6500	29.92	86-90	+80	1550	1700	1800		Max. curve starting.
AX	39	2000	9500	29.92	86-90	+80	2250	2440	2470		App. from low RPM P2, P4, 22-28"Hg.
G	40	2000	9500	29.92	86-90	+80	Within 50 PPH Pt. 39.				App. from 2850 RPM Hysteresis.
	41	2800	12000	29.92	86-90	+80	3400	3600	3550		Temp. Needle closed P2, P4, 51.0 - 58.0"Hg. OK
F	42	2850	13000	29.92	86-90	+80	3470	3900			Max. curve temp. needle closed.
H	43	2950	13700	29.92	86-90	+80	4500	4450	4700		Temp. Needle open. Set eccentric screw.
	44	3100	14200	29.92	86-90	+80	5925	7600	7700		Max. curve. Cam travel check.
	45	3300	15500	29.92	86-90	+80	7895	8300	8245		P2-P3 35.5-40.5" Kero. P2P4 138.0 - 158.0
	46	3350	16000	29.92	86-90	+80	8020	8450	8290		"Hg Set temp. index. Note 3.
	47	3517.5	16500	29.92		+80	6625	6650	6675		Gov. break. Set max. speed stop. Throttle angle 86-90°. Record T.A.
	48	3600	17000	29.92	86-90	+80	3700	4500	4800		Governor break slope.
	49		16500	29.92	86-90	+80	Within 395 PPH Pt. 47.				Set same RPM as Pt. 47. Hysteresis OK (6450)
	50	2400	11500	29.92	86-90	-65	2800	3000	3050		Temp. index closed. P2-P4, 34.5-41.5"Hg. Approach from lower rpm.
	51	2550	12000	29.92	86-90	-65	3500	3800			Temp. index open.
	52	2850	13000	29.92	86-90	-65	5625	6000	6525		Temp. index open.
	53	3050	14200	29.92	86-90	-65	7000	8400			Temp. index open.
R	54	3350	16000	29.92	86-90	-65	10550	10900	11900		Temp. comp. Approach from lower rpm.
	55	3350	16000	29.92	86-90	+80	Within 485 PPH Pt. 46.				Temp. hysteresis. OK
	56	3350	16000	29.92	86-90	+140	5860	6150	6210		Temp. comp. Not to exceed 170° bulb temperature.
	57	3060	14200	29.92	86-90	+140	4000	5150			Cam opening recheck.
	58	3100	14200	29.92	86-90	+140	+250	+900 of rec. value at test pt. 57.			Cam Functional Check. OK (5500)
	59	3350	16000	46.0	86-90	+80	11000	11700			Altitude curve ram.
	60	3350	16000	36.0	86-90	+80	9480	9500	10060		Altitude curve ram.
	61	3350	16000	20.58	86-90	+80	5625	6100	6000		Approach from high "Hg Abs.
	62	3350	16000	16.88	86-90	+80	4590	5700	5090		Altitude curve.
	63	3350	16000	13.75	86-90	+80	3640	4250	4040		Altitude curve.
	64	3350	16000	11.1	86-90	+80	2925	2450	3355		Altitude curve.

2

Enclosure (1) to Enclosure (1)

FUEL CONTROL SERIAL NO. 509230 PRIORITY D.I.R. NO. 213

FLOW: AS-RECEIVED

Test Pt.	Speed RPM	FUEL Supply PPH	Alt. "Hg. Abs.	Throttle Angle Degree	Bulb Temp. °F	Fuel Flow Min.	Fuel Flow Obs.	Fuel Flow Max.	Record per Test Conditions	Test Conditions
65	3350	16000	8.88	86-90	+80	2435	2850	2685		Altitude curve.
66	3350	16000	7.04	86-90	+80	1850	2200	2200		Altitude curve.
67	3350	16000	4.36	86-90	+80	1385	1620	1635		Altitude curve
68	3350	16000	20.58	86-90	+80	Within 220 PPH Pt. 61.				Approach from lower "Hg Abs. OK (5450)
69	3350	16000	55.0	86-90	+80	11900	12100	12300		Set reg. flow stop.
70	3350	16000	55.0	86-90	+80	8300	11000	8550		Comp. press. limiter setting. Note 2.
71	3350	16000	55.0	86-90	+80	Min. of 800 PPH less than Pt. 70. 144 PSI comp. disch. pressure.				
72	Obs.	15800	51.1	86-90	+165	3520	8660		Rec.	RPM+45 - 40 of Pt. 47. Do not exceed +170° bulb temperature.
73	Obs.	16500	7.04	86-90	-50	3542	2115		Rec.	RPM-45 + 25 of Pt. 47.
74	0	0		25-30						Adjust throttle balance spring cover so throttle travels to 70° throttle angle when released from a 20° throttle angle (stop screw backed out). Record, then adjust stop screw to 60°-65° throttle angle setting.

NOTES

1. With idle stop full out, set gov. lever micro screw to required flow. Approach from LOWER RPM.
2. With 140 PSI compressor disch. press. adjust spring until flow decreases within specified limits.
3. Approach all +80° temp. Settings from hot side except as otherwise listed. Approach -65° and +165° from +80°. When changing to a new temp. stabilize at new temp. for 5 min. constantly agitate both using two thermo. that agree with 1°F.
4. Run points in sequence, letters, then numbers, without overshooting or undershooting. Preset, using points 1 through 11, first.
5. [illegible], pressure after pressure valve.
6. [illegible] limiter to be vented to atmosphere except as listed otherwise. Do not exceed 100 PSI by-pass press.
7. [illegible] travel. Apply 40 in. lb torque to throttle cross shaft to place stop lever against min. throttle stop. Then set stop [illegible] control quadrant. Release torque to 5 in. lb and set C.O. lever micromatic adjustment screw to 0.010" clearance [illegible] and min. throttle stop. Must have min. of 1/16" clearance at 0° and W.O. throttle between levers and linkage. Min. 0° [illegible] between cut-off lug and casting at W.O. throttle. After lockwiring and sealing clearance between min. throttle and [illegible] .012 - .024 is acceptable.
8. [illegible] and adjust on regulator stem from sub-assembly setting.
9. [illegible] extractor for check and test runs and for final calibration.
10. [illegible] RPM. Adjust gov. valve sleeve to obtain required flow and record. Increase to 3600 RPM and [illegible] RPM as established at setting point. Flow must be within 395 PPH.
11. [illegible] psi for test press. unless press. valve assembly is removed.
12. [illegible] will be used for reference purposes only during calibration and not as a basis for rejection if units are in [illegible].
13. [illegible] throttle angle between throttle lever and throttle balance serrated [illegible]

MODEL TJ-12 Gas Turbine Fuel Control

FINAL CALIBRATION

3

Enclosure (1) to Enclosure (1)

AIRCRAFT CRASH FIRE REPORT

NAVAER 2325 (12-45)

To be made out according to instructions contained in Aviation Circular Letter 124-45

1. AIRCRAFT MODEL	BUREAU NO.	STATION SUBMITTING REPORT	DATE REPORT SUBMITTED	ACFT NO.
[redacted]	145972 D	NAS, Patuxent River, Md.	26/26/60	10-60
2. DATE OF ACCIDENT	HOUR	SCENE OF ACCIDENT	LOCATION	DISTANCE TO SCENE
25 Oct 1960	0954	NAS, Patuxent River, Md.	☒ ON STATION ☐ OFF STATION	1 mile
3. WEATHER GENERAL		TEMPERATURE	REL. HUMIDITY	WIND DIRECTION	VELOCITY
9 35		46°	51%	[illegible]	17 20

4. INDICATE CLASSIFICATION OF CRASH (Check where applicable) ☐ NO FIRE ☒ FIRE ☐ TAKE-OFF ☒ LANDING ☐ TAXI EMERGENCY ☐ LINE EMERGENCY

5. TIME OF ALARM	TIME FIRST APPARATUS ARRIVED	TIME FIRE OUT	ELAPSED TIME	QTY. GASOLINE	NATURE OF GROUND SURFACE
0954	0955	1000	6 HR. MIN.	Unknown	Wet Grass

6. CRASH EQUIPMENT USED

TYPE (FFN, ETC.)	USN No.	SIZE CREW	MILITARY OR CIVILIAN	EXTINGUISHING AGENTS USED TYPE	EXTINGUISHING AGENTS USED QUANTITY	RADIO EQUIPPED	OTHER DATA
Pick Up	94-39053	1	Civ	Asst. Fire Ch.	Foam Concentrate	Yes	
Pick Up	94-33166	1	Civ	Fire Chief		Yes	
Pick Up	94-33135	2	Mil	Rescue		Yes	
Panel	71-01405	2	Mil	Rescue		Yes	
MB 5	71-01422	3	Mil	Foam	2 cans	Yes	
MB 5	73-01367	3	Mil w/Mil	Foam	None	Yes	
MB 5	71-01004	3	Mil w/Mil	Foam	7 cans	Yes	(Continued on attached sheet)
[illegible]	73-00497	5	Mil w/ mil	Foam	11 cans	Yes	

7. RESCUE

TOTAL NO. PERSONNEL IN PLANE: One

	UNINJURED	INJURED	UNBURNED	MINOR BURNS	SERIOUS BURNS
NUMBER ESCAPED UNAIDED		One			
NUMBER RESCUED ALIVE					
NUMBER REMOVED DEAD					
LOCATION IN PLANE					
OTHER THAN OCCUPANTS					

8. MATERIAL DAMAGE

CAUSED BY CRASH	CAUSED BY FIRE
Strike	Negligible

9. FIRE-FIGHTING PERSONNEL

COGNIZANCE OVER CRASH CREW: ☐ STATION ☒ [illegible] ☐ OPERATIONS OFFICER

TITLE OF PERSON IN CHARGE FIRE FIGHTERS AT SCENE: (b) (6) Asst Fire Chief

10. CLEAR AND CONCISE DESCRIPTION OF ACCIDENT AND METHOD USED IN CRASH FIRE AND RESCUE OPERATIONS

Tower blew siren at approximately 0954 alerting the crash equipment that an aircraft had crashed on the field. All equipment responded. Truck No. 71-01004 which was set up as duty trunk was the first on the scene and promptly went to work, aided by MB-1 73-00497. Pilot got out the aircraft unaided and was taken to Station Hospital. Aircraft was making a landing on Runway 24 when it apparently was caught in a cross wind which caused it to veer off 24 on the S.E. Side. The aircraft continued across 31 which was under construction and continued for another 300 yards approximately, finally coming to a stop between Taxiways Hotel and Oscar. Structural truck No. 73-01344 responded and helped to extinguish grass

(over)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 70 OPNAVINST 3750.6D

16—45509-1

NAVAER 2325 (12-45) (BACK)

10. CLEAR AND CONCISE DESCRIPTION OF ACCIDENT AND METHOD USED IN CRASH FIRE AND RESCUE OPERATIONS—*Continued.*

fire. The plane was picked up by crane and deposited on apron at Service Test. Fire damage slight. Impact with ground caused the greater part of damage.

11. DISTRIBUTION

Orig.: BuAer via L. S. I. C.
cc: Bur. of Public Works)
cc: CNO (OP-51G)
cc:
AX

ORIGs: Bureps Code SSSC-42
VIAs: NATC
Copies to: A/C Accident Board
Aviation Safety Center, NORVA
Crash Officer, NAS, Pawtuxent River, Md.
Fire Chief

12. COMMENT AND RECOMMENDATIONS

13. THE ABOVE ARE TRUE STATEMENTS, BASED ON OPERATIONS AND OBSERVATIONS AT SCENE OF CRASH

SIGNED (b) (6) — IN CHARGE, CRASH FIRE AND RESCUE. Fire Chief

SIGNED [redacted], Captain, USN — COMMANDING OFFICER.

14.

INSTRUCTIONS

GENERAL

1. A report shall be submitted in **every** case that the Crash Fire and Rescue Crew answers an alarm involving aircraft.
2. Reports shall be prepared promptly and submitted to BuAer within 7 days by the Shore Station, or if the crash crew is a part of a Fleet Unit in an advance area, by the Fleet Unit, Acorn or Marine Air Squadron.
3. Submit photographs of crash and/or fire, if available.
4. Submit sketch showing location of crash, location of crash trucks before alarm, route of crash trucks to scene, and other pertinent details, if possible.
5. Include in report any additional enclosures, statements of personnel involved or other data that are considered desirable or that may add to an analysis of the report.

DETAILED EXPLANATION OF SECTIONS OF FORM

Sec. 1.—AIRCRAFT MODEL and BUREAU NUMBER are same as called for on NAVAER-339.

Sec. 2.—SCENE OF ACCIDENT—Give name of field or approximate location of scene of accident.
DISTANCE TO SCENE—Give distance from location of crash truck units to scene of crash, in feet or fractional miles.

Sec. 5.—TIME OF ALARM and TIME FIRST APPARATUS ARRIVED should be given to indicate difference in minutes and seconds.
ELAPSED TIME is from time of alarm to fire out.
QTY. GASOLINE—Give amount in crashed plane.

Sec. 6.—List **all** Fire and Rescue Trucks including any Pumpers, Ambulances, or specially equipped Jeeps, etc., that may respond.

Sec. 7.—List total number occupants at top and account for all occupants in columns below.

Sec. 8.—Give brief description in each column and an estimate in dollars, if at all possible.

Sec. 10.—Continue on separate sheet if necessary. Facts are important.

Sec. 11.—Add to distribution shown as necessary.

Sec. 12.—Any recommendation to correct deficiencies should be noted.

U. S. GOVERNMENT PRINTING OFFICE : 19—40592-1

6. Crash Equipment Used (Continued)

Cardox	71-00974	3	Mil	CO_2	None	Yes
Ambulance	94-11225	1	Mil			Yes
Tank Truck	21-9643	1	Mil	Water		
Structural Truck	73-01344	4	Civ	Water		

MEDICAL OFFICER'S REPORT OF A/C ACCIDENT, INCIDENT, OR GROUND ACCIDENT - PAGE 1

OPNAV FORM 3750-8 (Rev. 5-58) — See OPNAVINST. 3750.6C for instructions - SPECIAL HANDLING REQUIRED — OPNAV REPORT 3750-7

SECTION A - IDENTIFICATION

1. FROM (Name and mailing address of activity) Commander, Naval Air Test Center, Patuxent River, Md.								2. MOR NUMBER 8-60
3. REPORT FILED BY (Name and Signature of Medical Officer) (b) (6) LCDR, MC, USN NOV 10 1960						4. FORWARDED (Name and Signature of Appointing Authority) E. A. HANNEGAN, RADM, USN		DATE
5. TYPE OF MISHAP: ☐ ACCIDENT ☐ GROUND ACCIDENT ☐ INCIDENT			6. TIME AND ZONE 0955Q		7. DATE 25 Oct 60	8. GEOGRAPHICAL LOCATION Rwy 24, off left side, NASPAX		
9. MODEL A/C A4D-2N	10. BUNO 145072	11. NO. OF OCCUPANTS 1	12. TYPE ACCDT. H-1	13. DAMAGE CODE B	14. UNIT OPERATING A/C Service Test			

15. INDIVIDUALS INVOLVED - USE ADDITIONAL SHEETS IF REQUIRED. NAME (Last, first and middle initials)	16. UNIT TO WHICH ATTACHED	17. RANK, RATE	18. FILE/SERV. NO. DESIGNATOR	19. BILLET	20. BRANCH OF SERVICE	21. INJURY CODE	22. DISPOSITION
a. IN CONTROL OF A/C (b) (6)	Service Test.	MAJ	(b) (6)	Pilot	USMC	E	E
b.							
c.							
d.							

23. CLASSIFICATION OF ITEMS 15-22 WHEN NECESSARY

24. MODEL - OTHER A/C IF INVOLVED	25. BUNO	26. NO. OF OCCUPANTS	27. UNIT OPERATING A/C	28. DAMAGE CODE	29. REPORT NO.

30. DETAILED NARRATIVE ACCOUNT OF ACCIDENT (Use additional 8 X 10½ plain sheets if required)

MAJ (b) (6) took off from rwy 2 in an A4D-2N, BuNo 145072, at approximately 0903. During the flight all systems and accessories functioned normally. After approximately 45 minutes of flight, the pilot was cleared for a right hand approach to and landing on rwy 24. The tower gave the winds as WNW at 15 kts. Pilot was directed to land beyond the emergency chain gear which was rigged for rwy 6 at about 2300 feet from the approach end of runway 24. The airplane touched down in center of the runway at 130 KIAS, and approximately 2600 ft from the approach end. During the roll-out a right crosswind lifted the right wing causing the airplane to swerve to the left. The airplane became out of control and departed from the runway to the left about 5600 ft from the approach end. The airplane crossed the terrain to and crossed rwy 13-31, struck a 6 ft earth embankment (shearing landing gear), became airborne for about 100 ft and finally came to rest on the fuselage and two wing-tanks about 2400 ft from point of departure from rwy 24. The pilot abandoned the airplane without aid, after having some difficulty in opening the canopy. A fuel-grass fire had resulted during the latter phase of the crash path. The fire was extinguished by the crash crew. The pilot received no burns, (b) (6) (b) (6) He was taken to the NAS Hospital where X-ray examinations revealed (b) (6) . Pilot was transferred to USN Hospital, Bethesda, Md. for further treatment. Further examination revealed (b) (6) MAJ (b) (6) has been [illegible] the 2nd day of hospitalization.

SECTION B - MEDICAL OFFICER'S QUESTIONNAIRE

YES	NO	DID THE FLIGHT SURGEON: (If "NO" state reason in space below.)
X		1. VISIT THE SCENE OF THE MISHAP?
X		2. PARTICIPATE FULLY IN THE FIELD INVESTIGATION?
X		3. PARTICIPATE FULLY IN THE DELIBERATIONS OF THE A/C ACCIDENT BOARD?

GIVE APPROXIMATE NUMBER OF HOURS SPENT BY THE FLIGHT SURGEON:	4. IN FIELD INVESTIGATION	5. IN BOARD DELIBERATIONS	6. IN PREPARATION OF THIS REPORT
	2	25	26

7. REPORT PREPARATION CHECK LIST

X ALL PARTS OF FORM COMPLETED — X SURVIVORS' NARRATIVES — X PHOTOS — X CONCLUSIONS AND RECOMMENDATIONS — X REQUIRED COPIES FURNISHED

★ U. S. GOVERNMENT PRINTING OFFICE: 1959—488467

MEDICAL OFFICER'S REPORT OF A/C ACCIDENT, INCIDENT, OR GROUND ACCIDENT - PAGE 2

OPNAV REPORT 3750-7

OPNAV FORM 3750-8A (Rev. 5-53)

SECTION C - PHYSIOLOGICAL, HUMAN ENGINEERING, DESIGN, SOCIO-PSYCHOLOGICAL, AND TRAINING FACTORS WHICH CONTRIBUTED IN SOME DEGREE TO THIS A/C ACCIDENT, INCIDENT, OR GROUND ACCIDENT

NAME OF INDIVIDUAL (Last, first, (b) (6)

(b) (6)

MODEL A/C: A4D-2N

Check E-Established, S-Suspected, or P-Present for each factor selected. Additional 8X10½ plain sheets will be used for the supporting account of items checked below. Identify each statement with the factor and section identification (e.g., C1, C2, etc.). Attach all sheets pertaining to these factors to this form upon completion.

E	S	P	✓ FACTORS
			PHYSIOLOGICAL:
			1. Physically incapacitated in flight
			2. "G" forces
			3. Environmental stress - External
			4. - Internal
			5. Dysbarism/explosive decompression
			6. Diet
			7. Fatigue
			8. Hypoxia
			9. Related illness
			10. Vertigo/Disorientation/Illusions
			11. Hyperventilation
			12. Drugs
			13. Physical state
			14. OTHER:
			HUMAN ENGINEERING AND DESIGN:
			15. Personal equipment
			16. Displays and/or controls
			17. Work arrangement
			18. Working environment
	X		19. Habit interference
			20. OTHER:
			SOCIO-PSYCHOLOGICAL: (Emotional stress from non-duty sources)
			21. Pregnancy
			22. Illness or death
			23. Arguments
			24. Elated/Depressed state
			25. Personal habits - Drinking
			26. - Sex
			27. - Gambling
			28. - Debts

E	S	P	✓ FACTORS
			SOCIO-PSYCHOLOGICAL: (Emotional stress from duty sources)
			29. Expeditings/Delays
			30. Weather
			31. Mechanical Problems
			32. Social and working relationships
			33. Personal comfort
			34. Regulations
			35. Facilities
			36. Navigation
			37. Duty assignment
			38. Personality traits
			NON-STRESS FACTORS:
	X		39. Faulty attention
			40. Poor judgement
			41. Forgetfulness
			42. OTHER SOCIO-PSYCHOLOGICAL FACTORS
			TRAINING FACTORS:
			43. Physiological training
			44. Emergency Procedures training
			45. Survival and rescue training
			46. Refresher training
			47. Transition training
			48. OTHER:

SECTION D - AIR CREW DATA (fill in where applicable)

1. Flight time past 30 days	24.5	7. Total time in model	260.8
2. Flight time last 24 hours	1.0	8. Number of days grounded last month, give reason	0
3. Number of flights in last 24 hours	1		
4. Time at controls this flight	1.0	9. Number of and dates of previous accidents	4 Sep 54-Material failure, ditched, no pilot factor
5. Number of hours duty last 24 hours	8.0		
6. Total flight time	2321.1		

SECTION E - CONTRIBUTING FACTORS AND THEIR ANALYSES (As condensed from Part I, Sect. D and Part VIII of the AAR)

NOTE: Fill in this section only on that set of forms prepared for FIRST individual listed in Section A, i.e. 15(a). Attach additional sheets as necessary.

1. Pilot Technique---Did not divert to alternate airfield. Throttle cut to idle while still airborne. Crosswind technique not timely nor effective to prevent swerve.

2. Weather---Crosswind component in excess of 18 kts.

3. Possible fuel control malfunction.

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MEDICAL OFFICER'S REPORT OF A/C ACCIDENT, INCIDENT, OR GROUND ACCIDENT – PAGE 3

OPNAV REPORT 3750-7

OPNAV FORM 3750-88 (5-58)

SECTION F - SAFETY, PERSONAL, AND SURVIVAL EQUIPMENT

Prepare a narrative account of damaged or failed items. Identify each item discussed (e.g., F1, F2, etc.)

NAME OF INDIVIDUAL (Last, first, middle): (b) (6) (b) (6)

MODEL A/C: A4D-2N

GENERAL DESCRIPTION OF EQUIPMENT	AVAILABLE YES	AVAILABLE NO	SPECIFIC MODEL OR TYPE	UTILIZED YES	UTILIZED NO	FAILED YES	FAILED NO
1. Shoulder harness	X		*				X
2. Lap belt	X		*				X
3. Inertia reel	X		*				X
4. G-Suit		X					
5. Pressure suit-full or partial		X					
6. Exposure suit		X					
7. Flight suit (Other than above)	X		Otange-Summer	X			X
8. Helmet	X		APH-5	X		X	
9. ~~Goggles~~/Eyeshield	X						X
10. Shoes	X		Hitop	X			X
11. Gloves	X				X		
12. Life vest	X		MK-3D		X		
13. Life raft			PK-2				
14. OTHER:							
15. SIGNAL DEVICE - Flare (Night)	X		Survival kit		X		
16. - Flare (Day)	X		"		X		
17. - Dye marker	X		"		X		
18. - Radio	X		"		X		
19. - Flashlight	X		"		X		
20. - Mirror	X						
21. OTHER:					X		
22. SURVIVAL GEAR - Knife	X				X		
23. - First aid kit	X		Survival kit				
24. - Shelter							
25. - Food							
26. OTHER:							
27. RESCUE - Vehicle							
28. - Sling, Net, Stretcher							
29. OTHER:							

DESCRIPTION OF DAMAGE TO EQUIPMENT

*1,2,3. Section 14 of the A4D-2N HMI is incomplete. It gives the description of the straps and inertia reel, but no numbers. A Douglas Aircraft Co. Engineering Report of 16 Jun 60 states that the inertia reel strap assembly (Hardman Tool & Engr. Co. Part No. 7703-1) conforms to specifications contained in MIL-R-8236.

SECTION G - DETAILED EQUIPMENT QUESTIONNAIRE

OXYGEN EQUIPMENT

1. MASK - MODEL OR TYPE: A13-A
2. MODIFICATIONS, IF ANY: Hardman Suspension
3. REGULATOR - MODEL OR TYPE: Firewel
4. MODIFICATIONS, IF ANY: None
5. PREFLIGHTED BY USER? [X] YES [ ] NO
6. IF NO, WHY NOT:
7. LIST DISCREPANCIES NOTED BY PREFLIGHT CHECK: None
8. OXYGEN SUPPLY: PRIOR TO FLIGHT 10 LITERS (Liquid) ____ P.S.I. (Gas); TIME OF ACCIDENT 9.2 LITERS (Liquid) ____ P.S.I. (Gas)
9. WAS OXYGEN IN USE AT TIME OF ACCDT. [X] YES [ ] NO
10. IF YES, WAS SELECTOR SETTING [ ] 100% [ ] NORMAL
11. WAS ALL OXYGEN EQUIPMENT NECESSARY FOR THIS FLIGHT AVAILABLE? IF NO, LIST ITEMS AND REASON WHY. [X] YES [ ] NO
12. WAS OXYGEN MASK REMOVED AT ANY TIME IN FLIGHT? IF YES, GIVE DURATION AND REASON. [X] NO [ ] YES

RELEASE DEVICES

13. TYPE CHUTE RELEASE DEVICE: Rocket Jet
14. TYPE HARNESS RELEASE DEVICE:
15. WHEN WERE RELEASE DEVICES ACTIVATED? After airplane came to rest
16. WERE DIFFICULTIES ENCOUNTERED WITH RELEASE DEVICES? IF YES, STATE DIFFICULTIES, WHEN ENCOUNTERED AND CAUSE. [ ] YES [X] NO
17. WERE DIFFICULTIES ENCOUNTERED AFTER ACTIVATING RELEASE DEVICES? IF YES, STATE DIFFICULTIES, WHEN ENCOUNTERED AND CAUSE. [ ] YES [X] NO
18. WAS LIFE VEST INFLATED PRIOR TO ACTIVATING RELEASE DEVICES? IF YES, WHAT DIFFICULTIES DID THIS PRODUCE? [ ] YES [X] NO

(Continued on OPNAV FORM 3750-8C)

★ U.S. GOVERNMENT PRINTING OFFICE: 1957—498193

MEDICAL OFFICER'S REPORT OF A/C [illegible]CIDENT, INCIDENT, GROUND ACCIDENT – PA[illegible]

OPNAV REPORT 3750-7

OPNAV FORM 3750-8C (5-58)

SECTION G - DETAILED EQUIPMENT QUESTIONNAIRE (Continued)

NAME OF INDIVIDUAL (Last, first, middle) (b) (6) [redacted]

MODEL A/C A4D-2N

RESTRAINT HARNESS

19. INTEGRATED HARNESS SYSTEM, MODEL/TYPE: Torso

20. INTEGRATED? [X] FULL [ ] PARTIAL

21. MODIFICATIONS, IF ANY STATE REASON: None

22. DID INTEGRATED HARNESS FIT PROPERLY? IF NO, LIST DISCREPANCIES IN FIT AND GIVE REASONS THEREFOR
[ ] NO [X] YES

23. INTEGRATED HARNESS FITTING WAS CONDUCTED BY:
[X] WEARER [ ] FLIGHT SURGEON [ ] PARACHUTE RIGGER [ ] AVIATION EQUIPMENT OFFICER [ ] OTHER

24. IF SHOULDER HARNESS WAS USED, WAS IT:
[X] LOCKED [ ] UNLOCKED [X] TIGHT [ ] SLACK [ ] OTHER CONDITION

HELMET

25. TYPE HELMET: APH-5

26. LIST PRESCRIBED MODIFICATIONS: Hardman Suspension - Nape strap

27. OTHER MODIFICATIONS AND REASON FOR THEM

28. DID HELMET FIT PROPERLY? IF NO, GIVE REASON
[X] YES [ ] NO

29. HELMET FITTING WAS CONDUCTED BY:
[ ] WEARER [ ] FLIGHT SURGEON [X] PARACHUTE RIGGER [ ] AVIATION EQUIPMENT OFFICER [ ] OTHER

PARACHUTE

30. TYPE CHUTE: NB-9

31. LAST PACKING DATE: 9/20/60

32. MODEL/TYPE BAILOUT OXYGEN: Firewel "U" type

33. AUTOMATIC RIPCORD, IF INSTALLED (Model and type)
[ ] NONE Masters Spec. 1000C

34. DID AUTOMATIC RIPCORD FAIL? IF YES, WHY?
[ ] NO

35. WAS RIPCORD ACTIVATION
[ ] MANUAL [ ] AUTOMATIC?

36. IF MANUALLY ACTIVATED STATE REASON AND ANY DIFFICULTIES ENCOUNTERED

37. DID CHUTE OPEN IMMEDIATELY? IF NO, GIVE REASON
[ ] YES [ ] NO

38. ALTITUDE THAT CHUTE OPENED
FEET

39. OPENING SHOCK WAS:
[ ] SLIGHT [ ] MODERATE [ ] SEVERE

40. BODY ATTITUDE AT OPENING

41. CONDITION OF CHUTE AFTER OPENING

42. CHUTE OSCILLATION PRESENT:
[ ] NONE [ ] SLIGHT [ ] MODERATE [ ] SEVERE

43. IF OSCILLATION WAS PRESENT, HOW WAS IT STOPPED?

44. WEATHER CONDITIONS DURING DESCENT (List in sequence)

45. TOPOGRAPHY OF LANDING SITE

46. WAS BAILOUT OXYGEN CONNECTED?
[ ] BEFORE EXIT [ ] AFTER EXIT [ ] NO [ ] N.A.

47. WAS BAILOUT OXYGEN USED? IF NOT, WHY
[ ] YES [ ] NO

48. WHEN WAS IT ACTIVATED?
[ ] BEFORE EXIT [ ] AFTER EXIT

49. GIVE DIFFICULTIES ENCOUNTERED WITH BAILOUT OXYGEN AND THEIR CAUSE, IF ANY

50. WAS CHUTE HARNESS
[ ] TIGHT [ ] SNUG [ ] LOOSE

51. WAS A SITTING POSITION IN SLING OBTAINED DURING DESCENT? IF NOT, WHY?
[ ] NO [ ] YES [ ] NOT ATTEMPTED

52. SEAT CUSHION IF PROVIDED (Model/Type)
[ ] NONE

53. WAS PARARAFT LANYARD CONNECTED TO LIFE VEST D RING? IF NOT, WHY?
[ ] NO [ ] YES

54. LIST TYPE OF PARACHUTE TRAINING COMPLETED BY THIS INDIVIDUAL
[ ] NONE

55. IF ATTEMPT WAS MADE TO RELEASE PARARAFT DURING DESCENT, WAS RELEASE ACTIVATED SUCCESSFULLY? [ ] YES [ ] NO

56. IF NO, GIVE REASON

OTHER

57. IF G-SUIT, EXPOSURE SUIT, FULL OR PARTIAL PRESSURE SUIT WAS WORN, DID IT FIT PROPERLY? IF NOT, LIST DISCREPANCIES IN FIT AND GIVE REASONS THEREFOR.
[ ] YES [ ] NO

58. WAS G-SUIT EQUIPPED WITH A SPRING-LOADED DISCONNECT ADAPTER? IF NO, GIVE REASON
[ ] YES [ ] NO

59. LIST ALL ITEMS OF NON-STANDARD CLOTHING OR SURVIVAL EQUIPMENT UTILIZED

60. WAS ANY ITEM OF EQUIPMENT LOST? IF YES STATE ITEM, WHEN LOST, AND REASON FOR LOSS.
[X] NO [ ] YES

61. WAS ANY ITEM OF EQUIPMENT DISCARDED? IF YES, STATE ITEM, WHEN DISCARDED, AND REASON FOR DISCARD.
[X] NO [ ] YES

★ U. S. GOVERNMENT PRINTING OFFICE: 1959—498197

MEDICAL OFFICER'S REPORT OF A/C ACCIDENT, INCIDENT, OR GROUND ACCIDENT - PAGE 5
OPNAV FORM 3750-8D (Rev. 5-58)

SECTION H - EMERGENCY EXIT FROM A/C AND SURVIVAL FACTORS

MODEL A/C: A4D-2N

NAME OF INDIVIDUAL (Last, first, middle): (b) (6) /h) (6)

S	E	
		S-SUSPECTED, E-ESTABLISHED
		1. EJECTION - Attempted
		2. - Accomplished
		3. - Through canopy
YES	NO	EJECTION DIFICULTIES ENCOUNTERED
		4. - Prior to
		5. - During
		6. - Subsequent to
		7. Give type and model of seat used
		8. BAILOUT - Attempted
		- Accomplished

REMARKS

IF YES, EXPLAIN DIFFICULTIES

9. ALTITUDE AT TIME OF EXIT (first)
ABOVE SEA LEVEL 38 ft. ABOVE TOPOGRAPHY 0

10. ATTITUDE OR MANEUVER OF A/C AT EXIT OR IMPACT: Wings level, Upright

11. AIRSPEED: 0

12. COLLISION OF A/C WITH: [X] GROUND [ ] WATER

13. CONTROLLED? [ ] YES [X] NO [ ] UNKNOWN

14. POWER: [ ] ON [X] OFF

15. WHEELS: [ ] UP [X] DOWN

16. FLAPS: [ ] FULL [X] UP [ ] PARTIAL

17. CANOPY POSITION AT EXIT OR IMPACT: [X] OPEN [ ] CLOSED [ ] JETTISONED

18. SEA STATE

19. AIR TEMP. °F

20. WATER TEMP. °F

21. A/C FLOATED SEC.

22. TIME IN WATER

23. TIME IN RAFT

BAIL OUT OR COLLISION WITH WATER OR GROUND

24. EXIT USED: Cockpit

25. IS THIS THE RECOMMENDED EXIT? IF NO STATE REASON FOR CHOICE. [X] YES [ ] NO

26. DIFFICULTIES WITH THIS EXIT WERE: [ ] IN REACHING [X] IN OPENING [ ] IN EXITING

27. STATE NATURE OF DIFFICULTY: Had to push canopy up.

28. BODY POSITION DURING EXIT: Upright.

29. LIST OTHER FACTORS NOT INDICATED ABOVE WHICH AFFECTED EXIT FROM A/C

SURVIVAL FACTORS: Check factors below which are appropriate for this accident. Prepare a detailed narrative account of the factors checked below and attach to this form. Identify each item discussed by item number (e.g., H30, H31, etc.)

COMMUNICATIONS:
- 30. Communicated position prior to mishap
- X 31. Witnesses at scene: Control tower
- 32. Electronic signal devices
- 33. Visual signal devices
- 34. Auditory signal devices
- 35. OTHER:

TRAVEL:
- 36. LAND
- 37. WATER

SHELTER:
- 38. Life raft
- 39. Parachute
- 40. A/C structure
- 41. Natural shelter
- 42. Man-made shelter
- 43. OTHER:

WATER SOURCE:
- 44. Desalter kit, seawater or solar still
- 45. Rain, dew, snow, ice, etc.
- 46. Processed beverages
- 47. Canteen, thermos, water breaker, etc.
- 48. Streams, ponds, wells, etc.
- 49. OTHER:

MAINTAINING BODY TEMPERATURE:
- 50. Items used as shelter
- 51. Items used as clothing
- 52. Fire
- 53. OTHER:

ENVIRONMENTAL HAZARDS:
- 54. Exposure to natural forces
- 55. Exposure to dangerous animals and plants
- 56. Unfriendly native population
- 57. OTHER:

MORALE:
- 58. Isolation
- 59. Psychological shock
- 60. Lack of motivation to survive
- 61. Boredom
- 62. Rationing, activities, and group coordination
- 63. OTHER:

FOOD SOURCE:
- 64. Prepared survival rations
- 65. Animals/plants
- 66. OTHER:

SURVIVAL TRAINING RECEIVED PRIOR TO MISHAP
- 67.

★ U.S. GOVERNMENT PRINTING OFFICE: 1957—488498

OPNAV REPORT 3750-7

MEDICAL OFFICER'S REPORT OF A/C ACCIDENT, INCIDENT, OR GROUND ACCIDENT - PAGE 6

OPNAV FORM 3750-8E (Rev. 5-58)

SECTION I - PATHOLOGICAL FACTORS (Use A to denote ANTE MORTEM; P for POST MORTEM, when known and applicable.)

MODEL A/C: A4D-2N

1. NAME: (b) (6)

2. AGE: 34 | 3. HEIGHT: 69 INCHES | 4. WEIGHT: 165 | 5. LOCATION AND DIRECTION FACING AT TIME OF ACCIDENT: Cockpit - forward | 6. INJURY CODE: E

7. UNCONSCIOUSNESS: ☐ SHORT DURATION LITTLE SIGNIFICANCE ☐ OTHER (give time)

8. INTERNAL INJURIES (Non-fatal cases)

HEAD INJURIES

9. CEREBRAL CONCUSSION: ☐ MINOR ☐ SERIOUS ☐ CRITICAL ☐ FATAL

10. FACIAL INJURIES (n.e.c.)

11. INTRA-ORAL INJURIES

12. MINOR EYE INJURIES: ☐ RIGHT ☐ LEFT

13. MAJOR EYE INJURIES: ☐ RIGHT ☐ LEFT

14. TYPE OF FRACTURE

	SKULL		VERTEBRAE (Specify No.)					SHOULDER GIRDLE	RIBS	PELVIS	UPPER ARM		LOWER ARM		HAND		UPPER LEG		LOWER LEG		FOOT	
	CRAN.	FACIAL	CERV.	THOR.	LUMBAR	SACRU.	COCCYX				R	L	R	L	R	L	R	L	R	L	R	L
SIMPLE																						
COMPOUND																						
COMMINUTED																						

	JAW	SHOULDER	ELBOW	WRIST	HIP	KNEE	ANKLE
DISLOCATION				HAND			FOOT

15. AMPUTATIONS/AVULSIONS (State Parts)

16. LIST PRE-EXISTING PHYSICAL DEFECTS PRESENT AT TIME OF POST CRASH EXAMINATION

17. SOFT TISSUE INJURIES

		LACERATIONS			CONTUSION/SPRAIN/STRAIN			ABRASIONS		
		MILD	MODERATE	SEVERE	MILD	MODERATE	SEVERE	MILD	MODERATE	SEVERE
HEAD (n.e.c.)	VENTRAL									
	DORSAL							X		
NECK										
THORAX	VENTRAL									
	DORSAL									
ABDOMEN	VENTRAL									
	DORSAL									
EXTREMITIES	UPPER									
	LOWER									

18. ☐ DROWNED

19. ☐ ASPHYXIATED

20. SHOCK: ☐ MILD ☐ MODERATE ☐ SEVERE

21. EXPOSURE: ☐ MILD ☐ MODERATE ☐ SEVERE

22. ☐ BURNS ☐ FROST BITE

DEGREE	1ST	2ND	3RD	1ST	2ND	3RD	1ST	2ND	3RD
AREA	HEAD (ventral)		Dorsal)	TRUNK (ventral)		Dorsal)	ARMS		LEGS

22. EXTENT OF CARBONIZATION: ☐ NONE ☐ COMPLETE

ARE TISSUE SPECIMENS OBTAINABLE? ☐ YES ☐ NO

NOTE: Attach a detailed narrative account of injuries, cause, structures causing injury, magnitudes of force, and include whether ANTE- OR POST-MORTEM if determined. It is necessary to give as clear a picture of injury cause and sequence as possible.

24. ADMITTED TO SICK LIST? IF YES, GIVE DIAGNOSIS: ☒ YES ☐ NO (b) (6)

25. DIAGNOSIS NO. (NAVMED P-1294)

26. ESTIMATED STAY ON SICK LIST: ~~20~~ NA DAYS

27. GROUNDED? IF YES GIVE REASON: ☒ YES ☐ NO Same as #24 Removed from grounding list 9-11-60

28. ESTIMATED DURATION: ~~120~~ NA DAYS

29. PRIMARY CAUSE OF DEATH (Use Basic Diagnostic Nomenclature, NAVMED P-1294) NO.

30. SECONDARY CAUSE OF DEATH NO.

31. AUTOPSY PERFORMED? ☐ YES ☐ NO

32. PROTOCOL: ☐ ATTACHED ☐ WILL BE FORWARDED

33. AUTOPSY CONDUCTED BY: ☐ PATHOLOGIST ☐ FLIGHT SURGEON

IF FLIGHT SURGEON DOES AUTOPSY USE "AUTOPSY GUIDE FOR A/C ACCIDENT FATALITIES", AFIP-1957.

34. SPECIMEN	TEST PERFORMED	RESULTS
BLOOD: 1		
2		
3		
URINE		
G-I CONTENTS		

SPECIMEN	TEST PERFORMED	RESULTS
TISSUE: (CNS)		
- MUSCLE		
- VISCERA		
OTHER:		

35. IF ULTRAVIOLET LIGHT OR OTHER SPECIALIZED INVESTIGATIVE PROCEDURES WERE USED AT THE MISHAP SITE OR AUTOPSY, LIST THEM IN THIS SPACE. FOR EACH ENTRY IN [illegible] A NARRATIVE ACCOUNT OF THEIR RESULTS AND INTERPRETATION WILL BE ATTACHED.

*24. (b) (6)

★ U. S. GOVERNMENT PRINTING OFFICE: 1959—491196

** Returned to duty 8 November 1960

DISCUSSION

This accident occurred after a rather routine project flight. The pilot had expected some crosswind gusts on landing and had planned to be ready to safely land the airplane. He had requested and obtained the surface wind direction and force (enclosures (1) and (2)). The tower reported the winds as WNW at 15 knots. The pilot stated that the winds were reported as WNW, 10-15 knots, possible gusts to 20 knots (enclosure (1)). This information was actually given to 070 which was following 072 (enclosure (2)).

At the time the pilot received his first wind condition information, he was told to land beyond the chain gear (enclosure (2)). He makes no mention of this in his statement, but mentions twice, "land 1500 feet down the runway, past the chain gear". This instruction was received at the 90° position. In the latter part of his statement he stated that this "was a significant factor in diverting my attention from a dangerous wind condition during landing [redacted] (b) (5) [redacted] (enclosure (1)). If this were a significant diversion factor, it should not have been. [redacted] (b) (5)

This pilot is highly skilled in this model airplane. He is the project officer in the A4D-2N and has done a number of crosswind landings. [redacted] (b) (5) [redacted] Prior to this, he had maintained power on and a straightaway path over the runway, during which he noted no drift. [redacted] (b) (5)

The use of right aileron is missing from his statement which otherwise describes the beginning of perfect technique after touchdown in a crosswind (enclosure (2)). Without the initial use of right aileron and with idle power, he had less positive control over his airplane than otherwise had he used these two factors. Therefore, the use of right rudder and full right aileron was ineffectual to correct a swerve to the left after the right wing had lifted. [redacted] (b) (5)

F-39 (Faulty Attention) was checked as suspected, because pilot did not record receiving instruction to land beyond the chain gear at the time he first received the wind condition.

It must also be noted that the tower did not give the pilot the complete wind condition. The pilot evidently heard "gusts to 20" when the tower relayed this information to 070 (enclosures (1) and (2)). Had 072 been the only airplane landing at this time, failure to give the gusts would have been a serious omission. The tower became confused after the accident and directed 072 to orbit the field, when 072 was the airplane involved in the accident (enclosure (2)).

In enclosure (1) the pilot gives four factors, which if combined, would have prevented this accident. [redacted]

MAJOR [redacted] received [redacted] Enclosure (3) shows the bottom portion of the mask slightly rolled. The nylon webbing portion of the Hardman suspension beneath this roll is thought to be responsible for the injury. The strap border nearest to the edge of the mask was faintly discolored and gave a positive reaction for blood to H_2O_2.

Enclosures (4) through (6) show some fresh scratches on his helmet. No red paint was found in the cockpit that would indicate helmet contact.

The pilot gave some thought to using the RAPEC seat because of possible collision with construction equipment. He decided against this in view of 80-85 knots indicated and attempted to secure the engine. He found it impossible to accomplish this, by manual shutoff or retarding throttle, due to airplane motion and tight friction lock.

The cause of the severe pounding in the small of his back is not known. [redacted] A small amount of forward motion during violent deceleration would allow him to jackknife slightly and result in the forces being felt in this area.

The pilot was admitted for treatment of a [redacted]. However, this proved out to be an old injury and he was discharged to duty on 8 November 1960. Therefore his injuries are classified as none, since he was asymptomatic 48 hours after the accident.

The canopy rose about halfway and the pilot had to push the canopy open. [redacted] Since the accident the canopy opening has been checked several times, and the canopy did not open completely at any time. On each successive opening, the canopy tended to open wider. No obvious deformation of the canopy frame nor cockpit sill was noted.

CONCLUSIONS

It is concluded that:

a. Pilot technique (i.e. power at idle and probably no initial aileron) was a major factor influencing this accident.

b. An excessive crosswind gust lifting right wing was also a major factor influencing this accident.

c. Pilot use of controls was ineffectual to control swerve to the left after the crosswind effect.

d. Tower instruction to land beyond the chain gear was considered by the pilot as distracting.

e. Tower failed to give peak gusts expected with first weather information.

f. [redacted] (b) (5)

g. The pilot rationalizations were an attempt to establish major fault with the tower personnel.

h. [redacted] (b) (5)

i. The retention straps, inertia reel and personal protective equipment functioned properly and prevented serious injury.

j. The oxygen mask protected pilot's face when it hit the glare shield coaming.

k. There were no physiological factors operating prior to or during this accident.

RECOMMENDATIONS

It is recommended that:

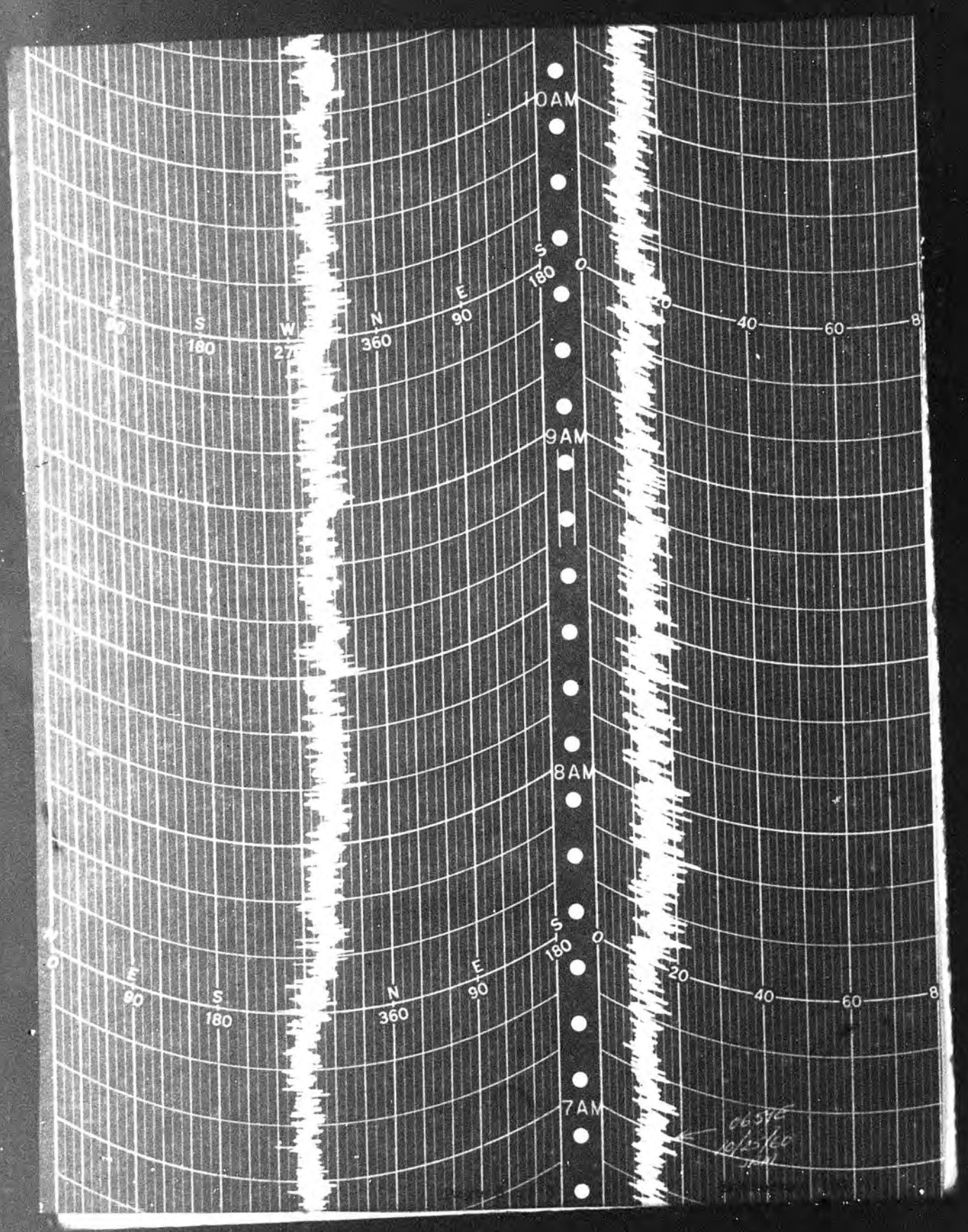
a. It be re-emphasized to all pilots that there is no substitute for exact technique when landing an airplane in high crosswind, especially when gusts can be expected.

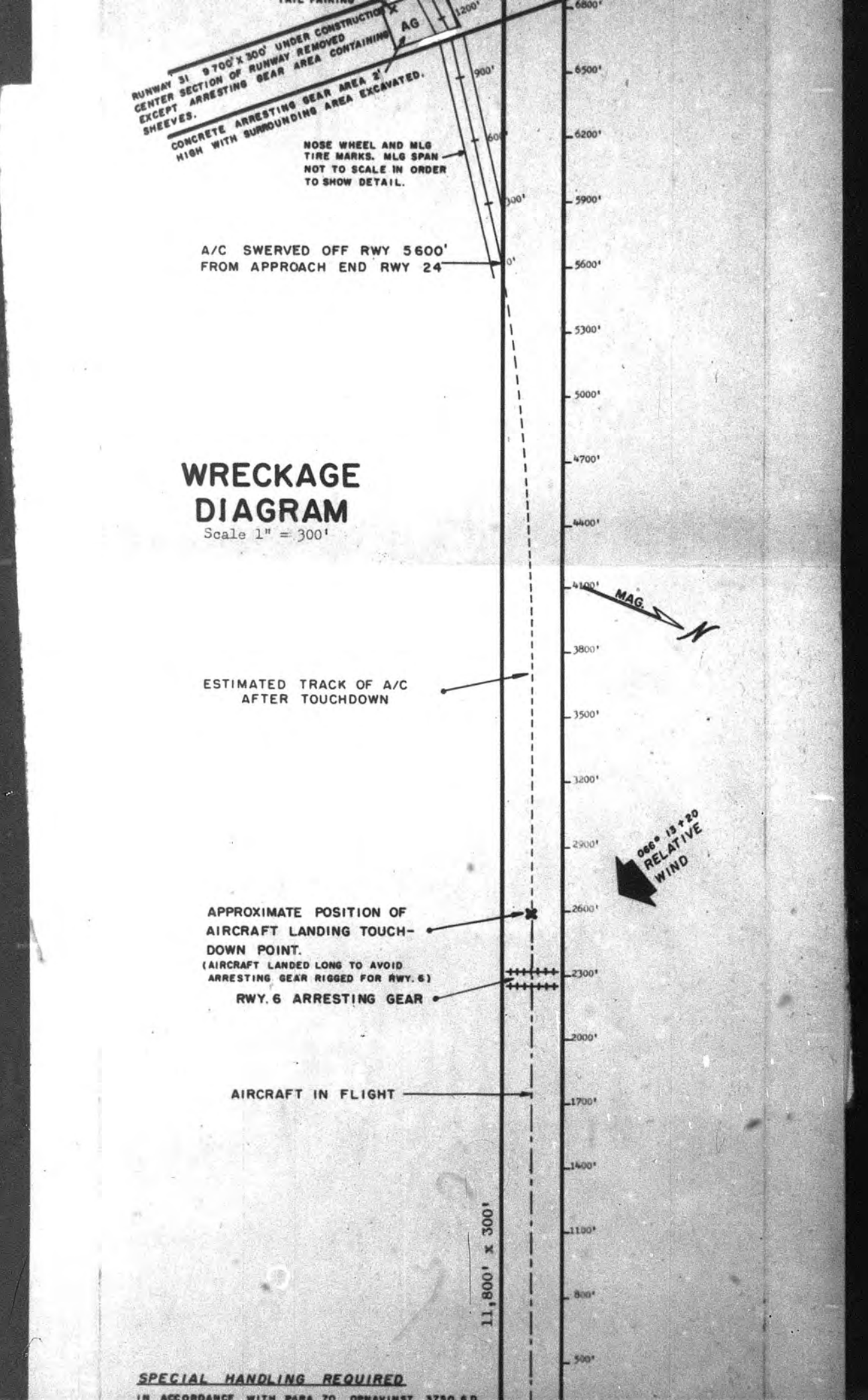
b. Re-emphasize to all pilots to allow nothing to distract attention in any degree from the job at hand. If in doubt, distracted, confused or irritated, take whatever action necessary for clearing his mental facilities to insure a comfortable margin of safety.

c. Tower control be required to give the complete weather condition, including gusts.

(b) (6) [redacted]

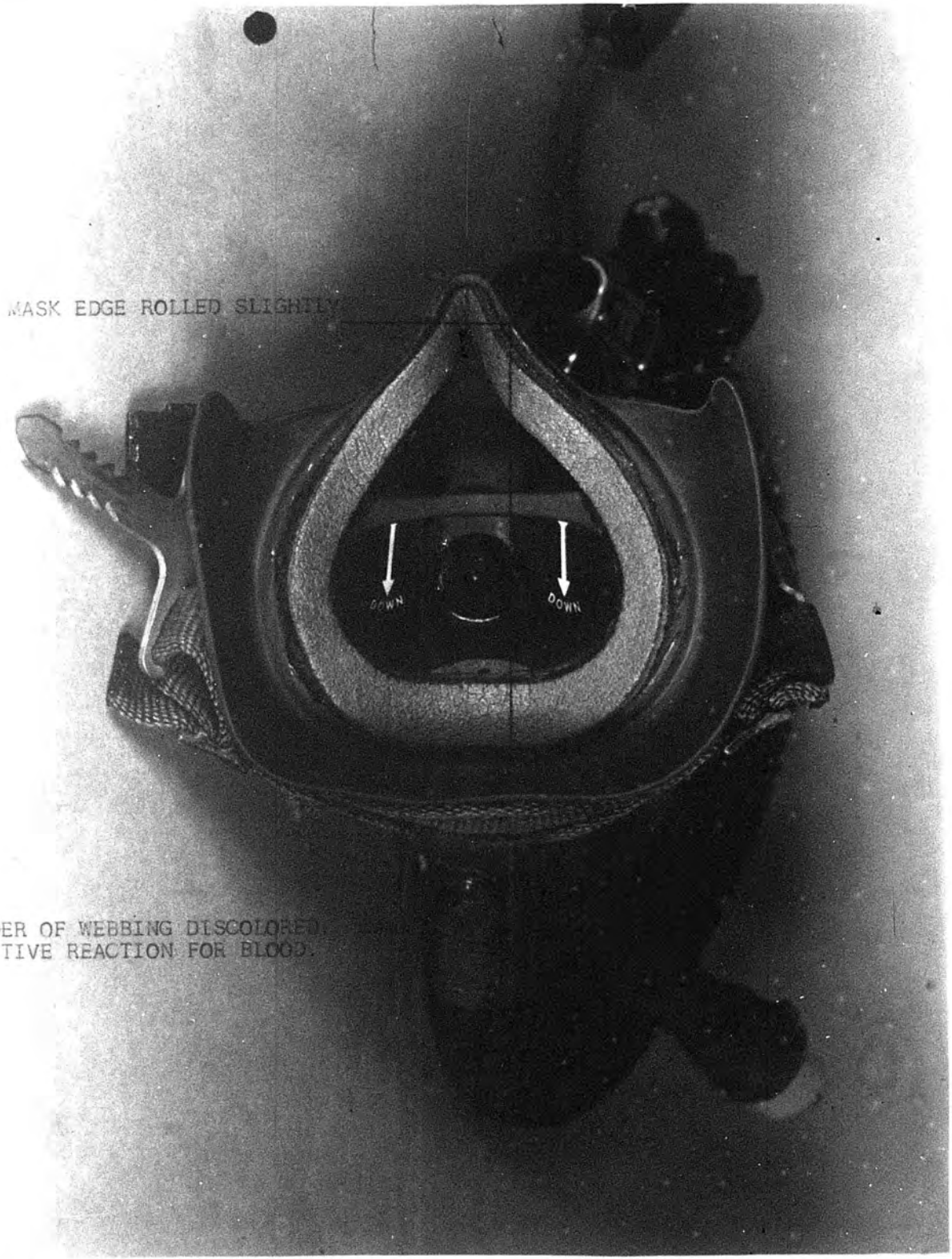
LCDR, MC, USN


10AM
9AM
8AM
7AM
S
180
0
E
90
N
360
W
270
20
40
60



SPECIAL HANDLING REQUIRED

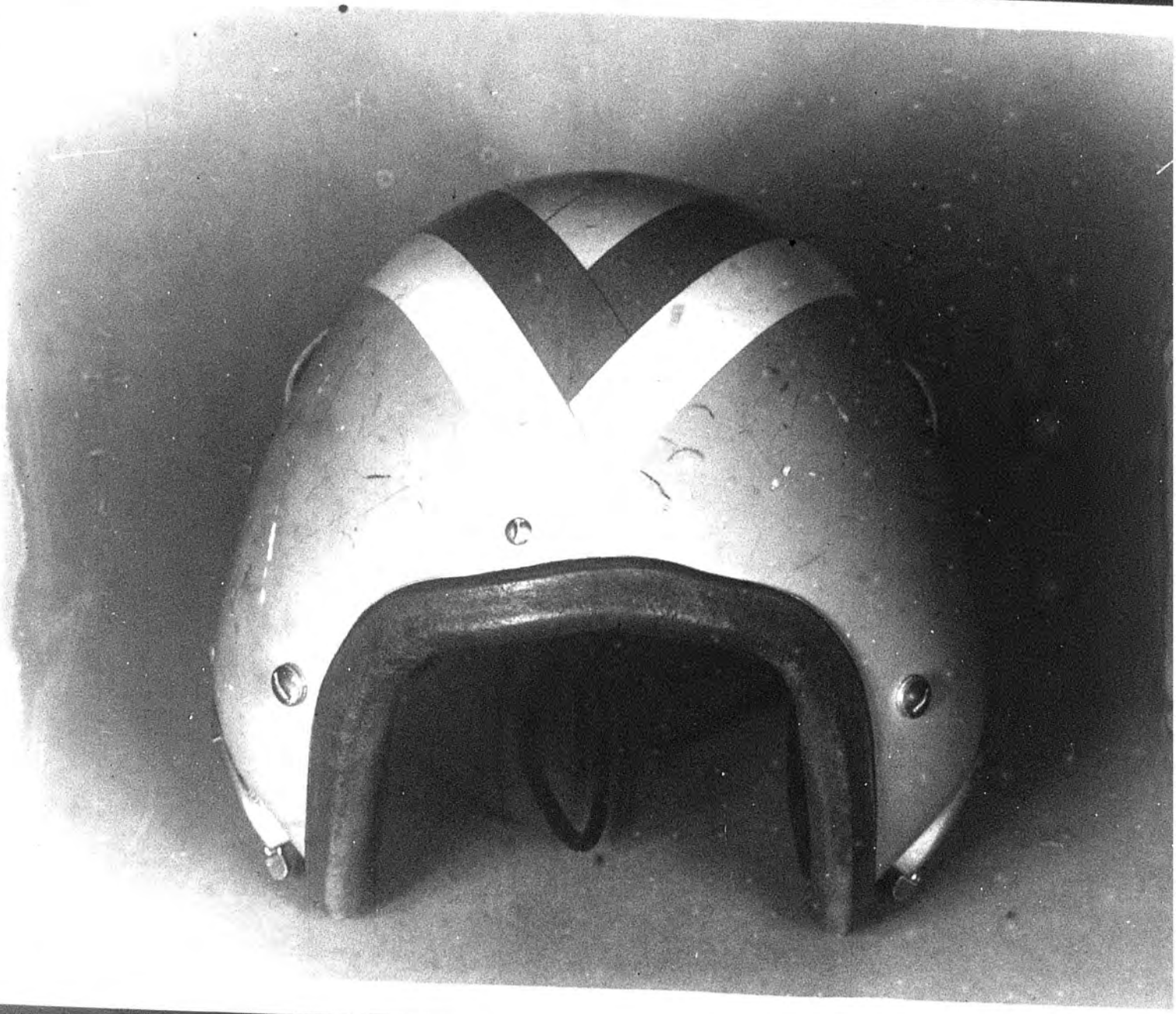
IN ACCORDANCE WITH PARA 70, OPNAVINST 3750.6R

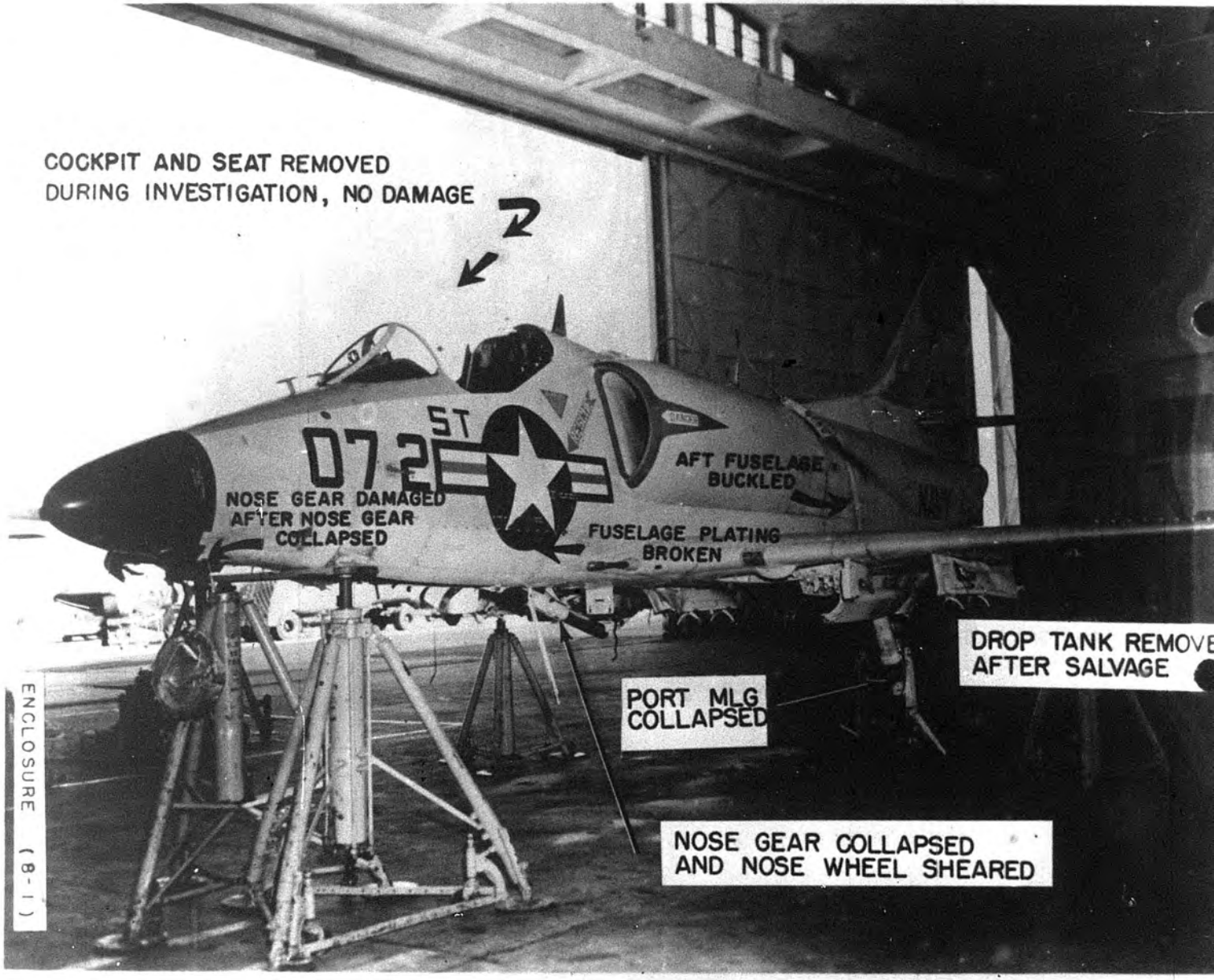

MASK EDGE ROLLED SLIGHTLY
DOWN
DOWN
ORDER OF WEBBING DISCOLORED.
OSITIVE REACTION FOR BLOOD.

VIEW OF MASK

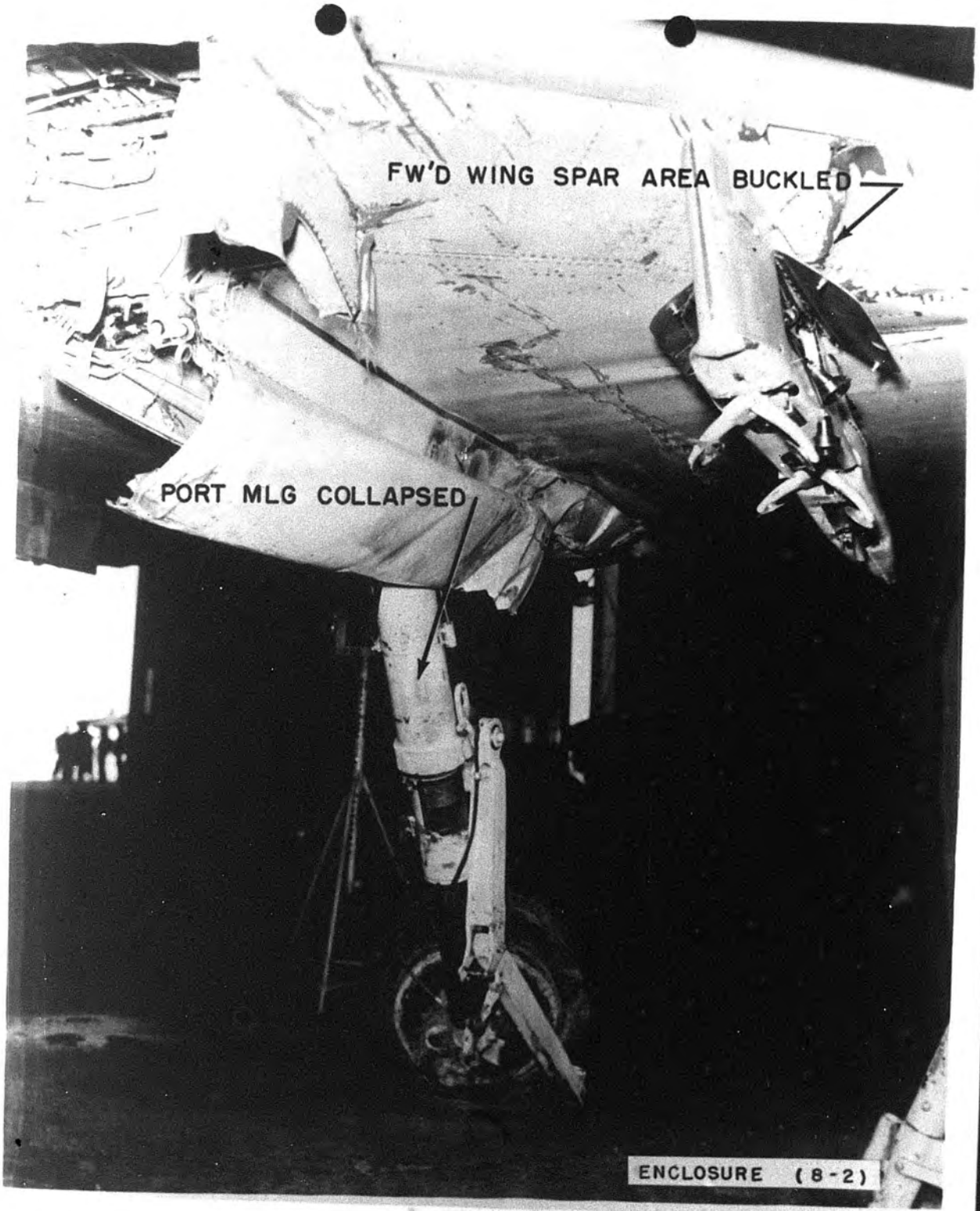
ENCLOSURE (1)

FIGURE (-) APH-3 HELMET

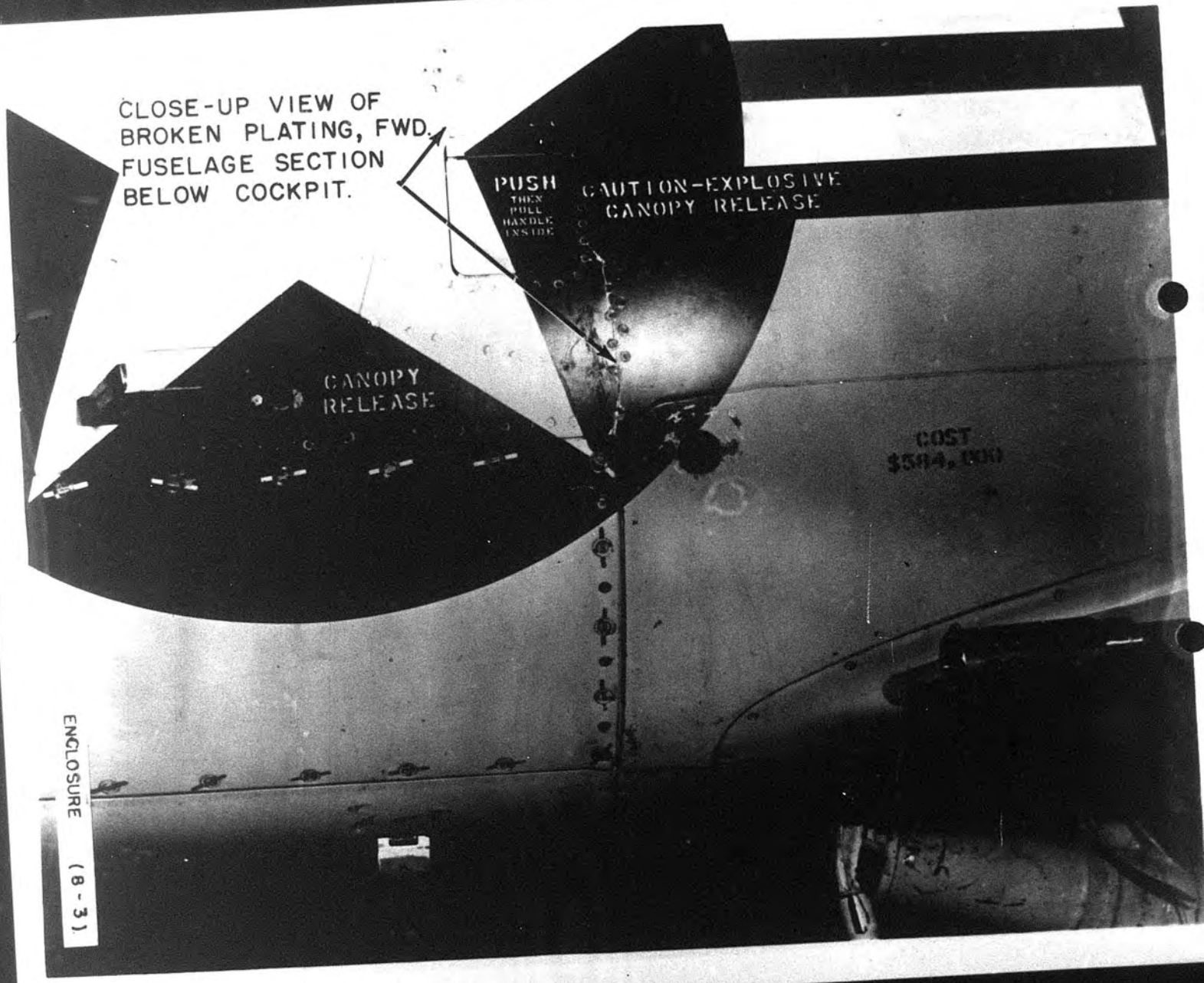




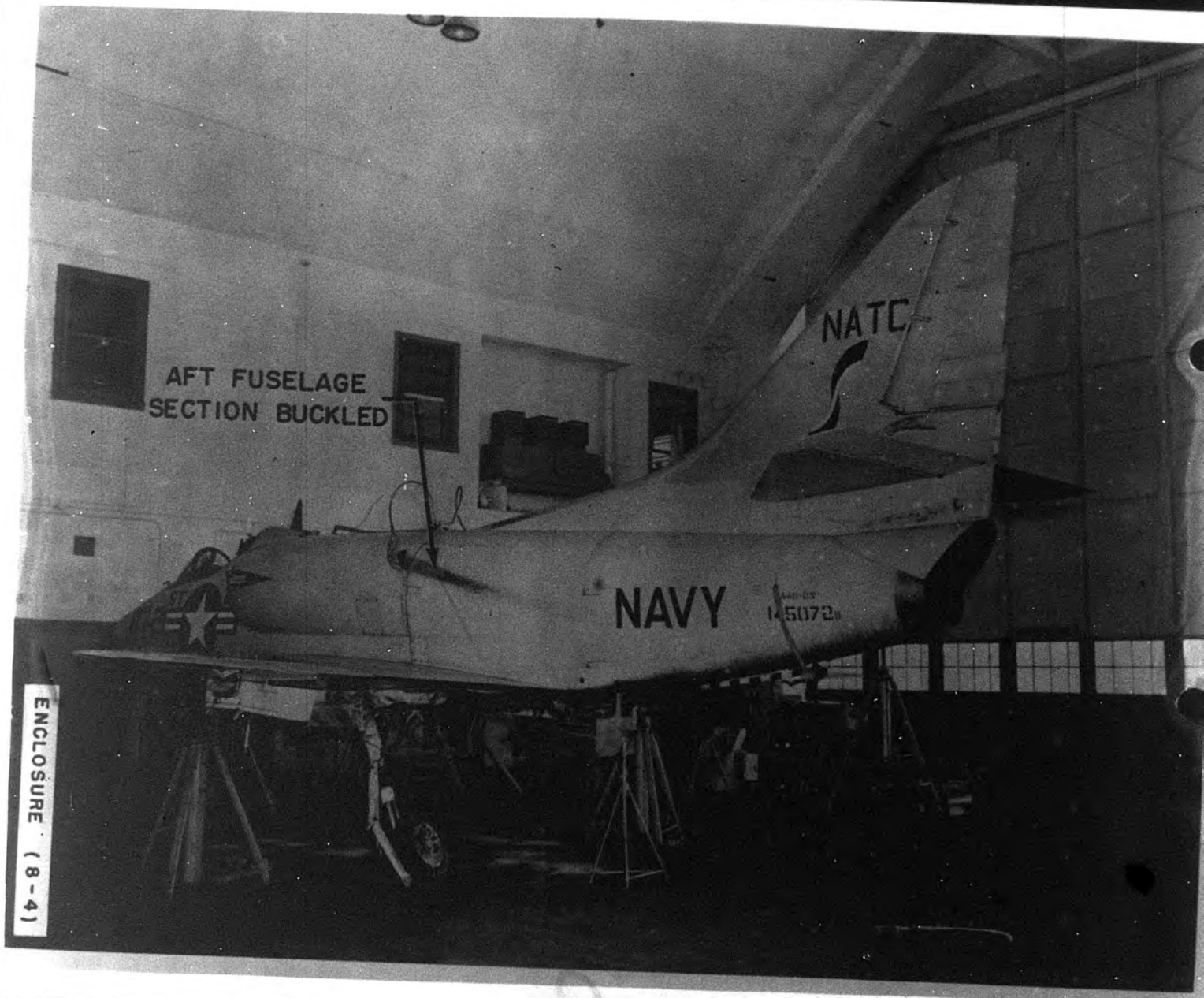
ENCLOSURE (8-1)



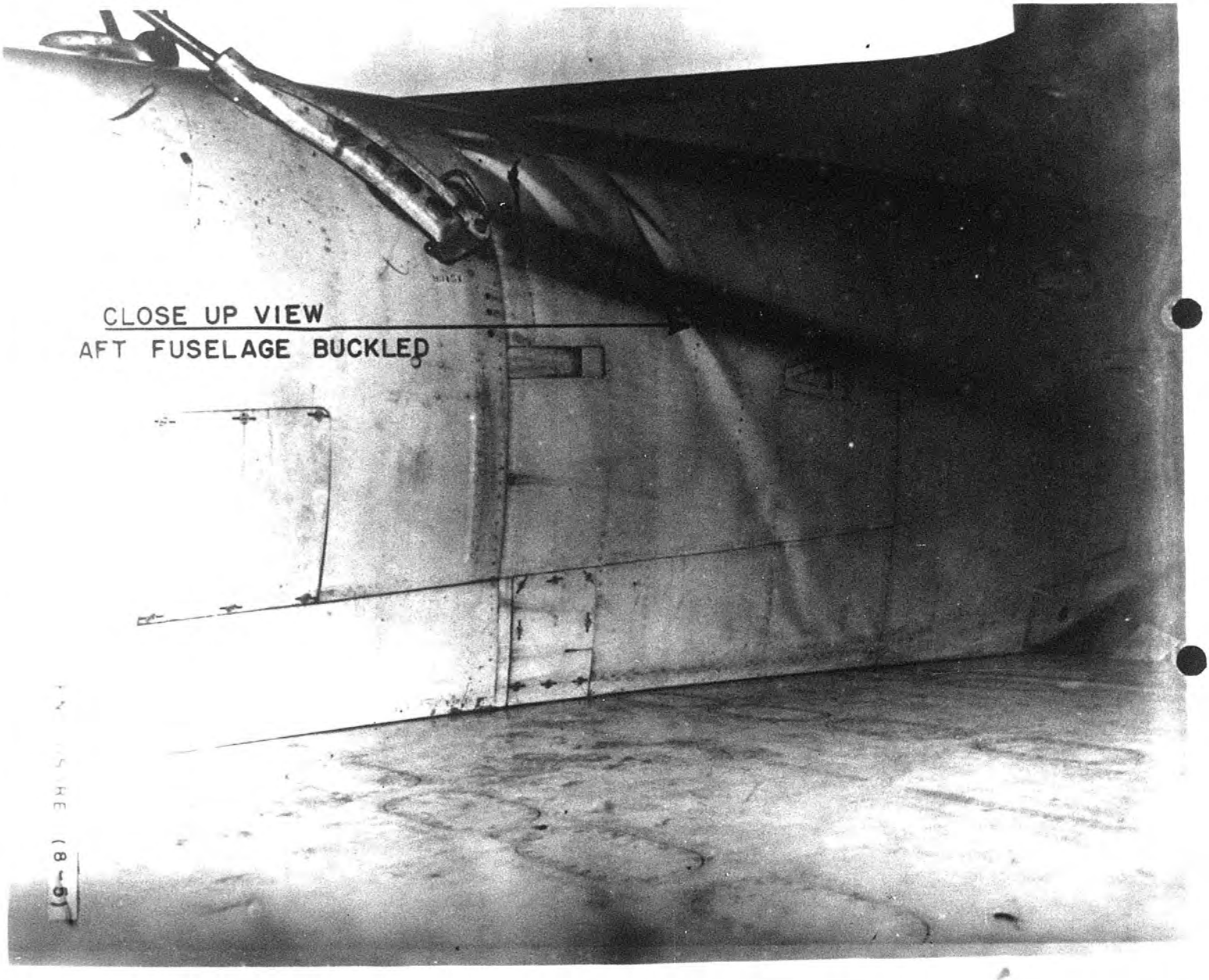
ENCLOSURE (8-2)

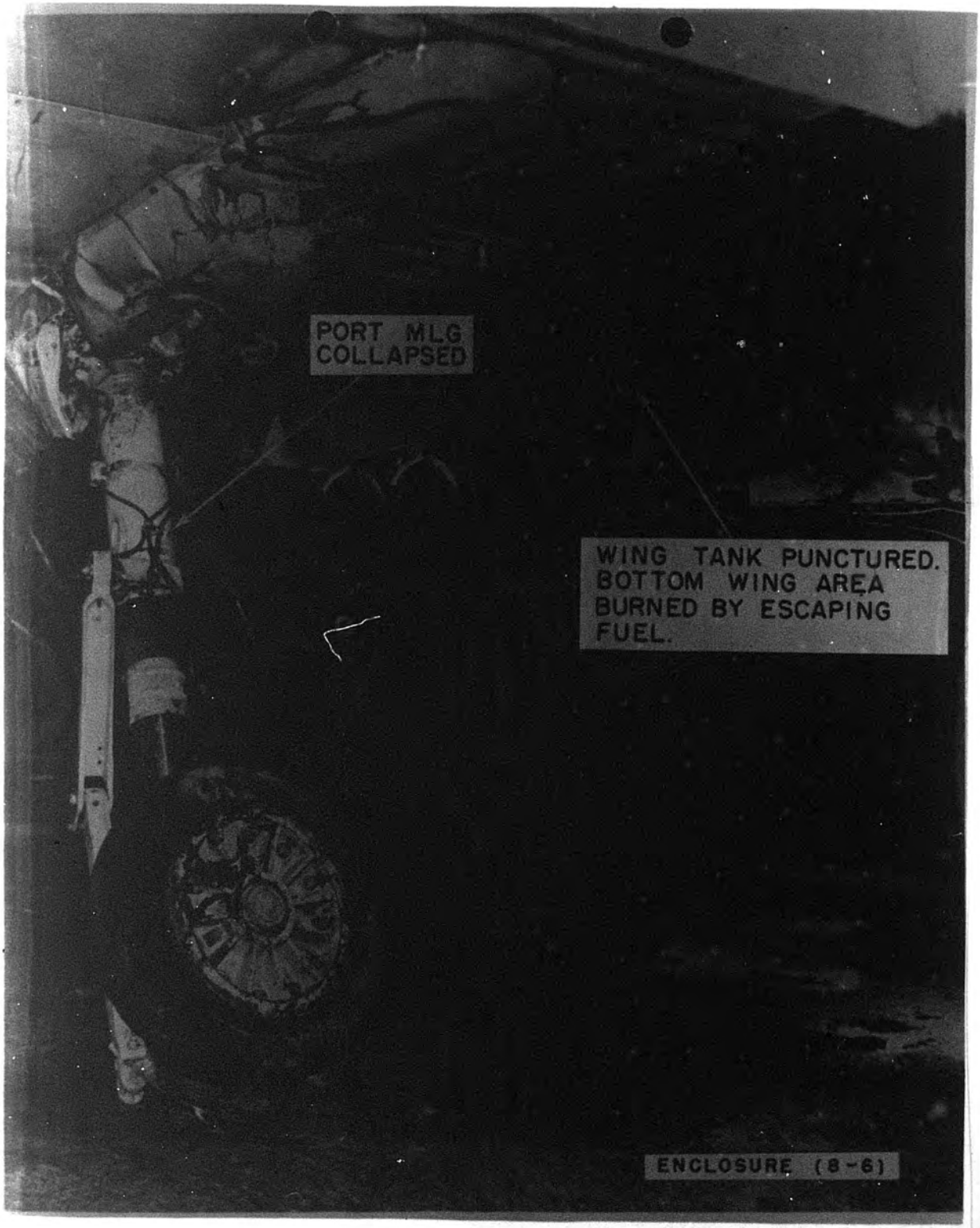


ENCLOSURE (8-3)

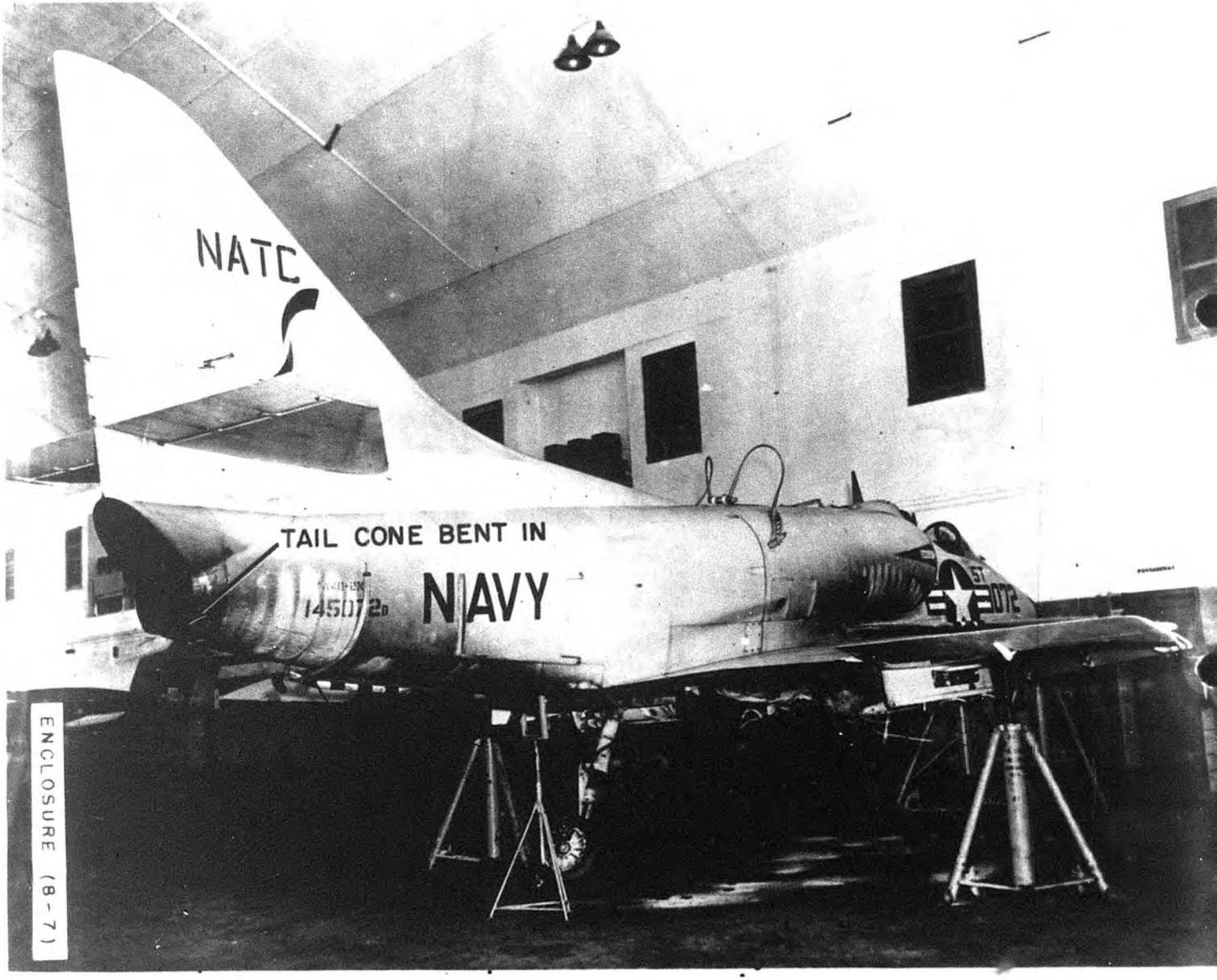


ENCLOSURE (8-4)

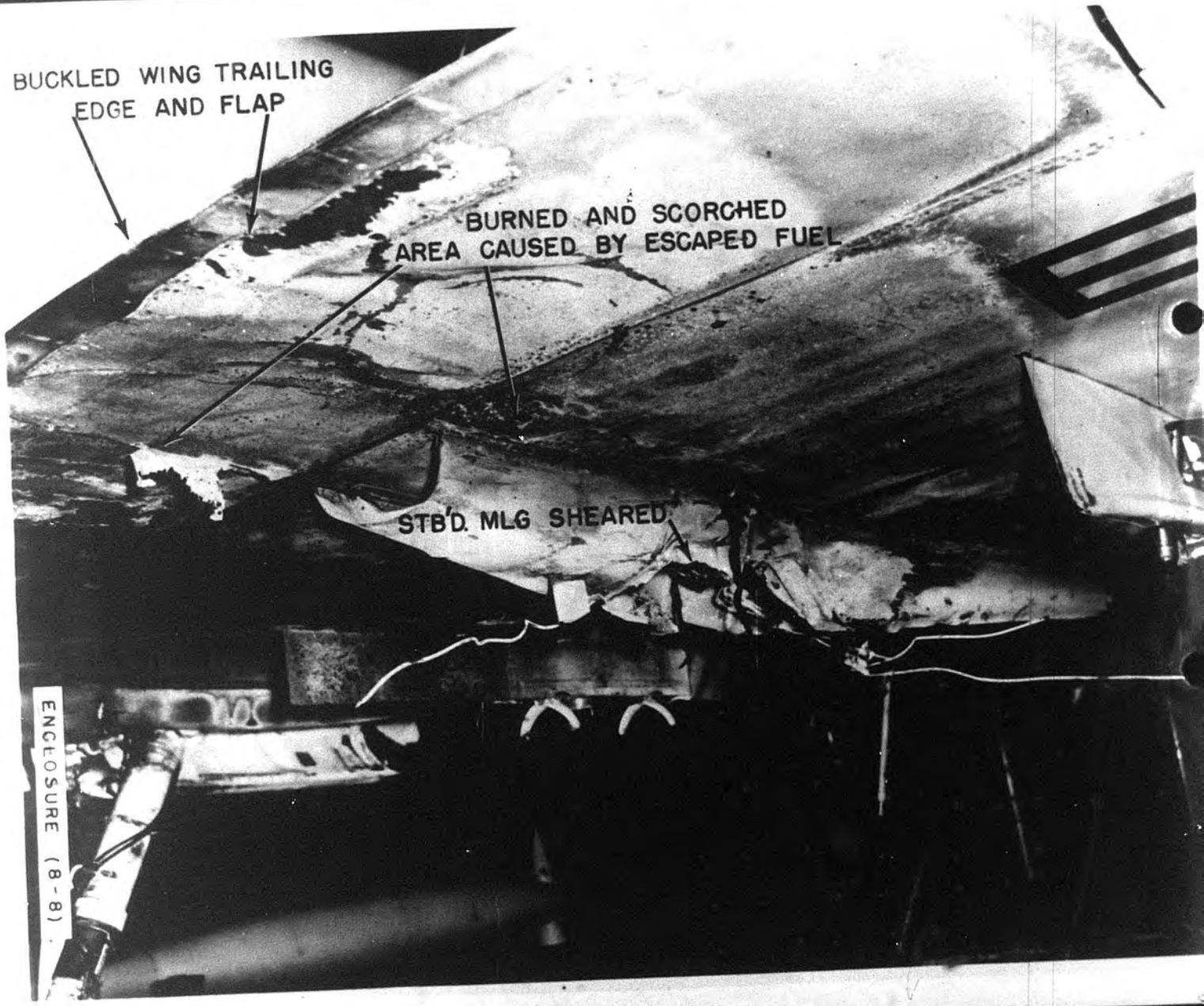

CLOSE UP VIEW
AFT FUSELAGE BUCKLED



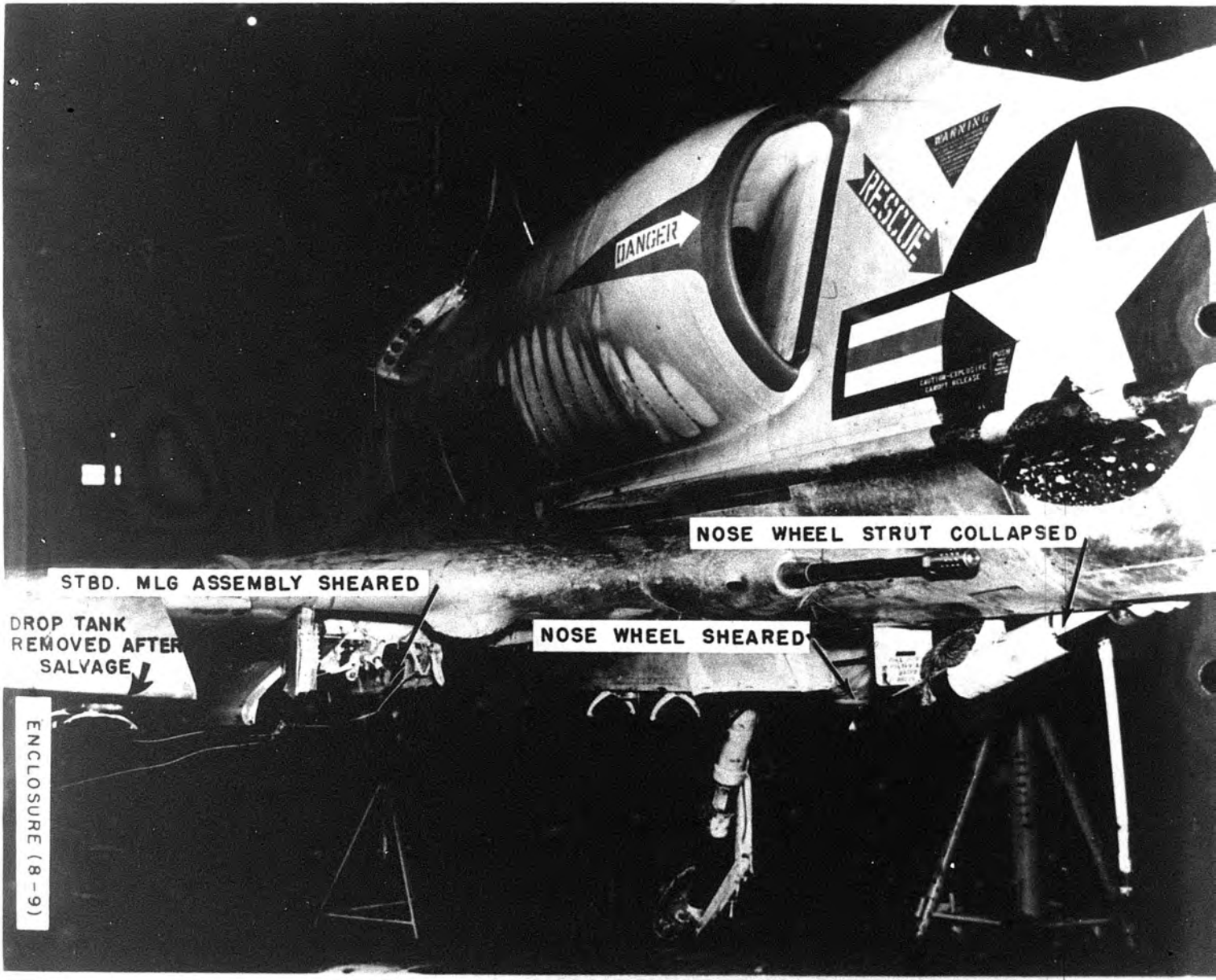
ENCLOSURE (8-6)



ENCLOSURE (8-7)

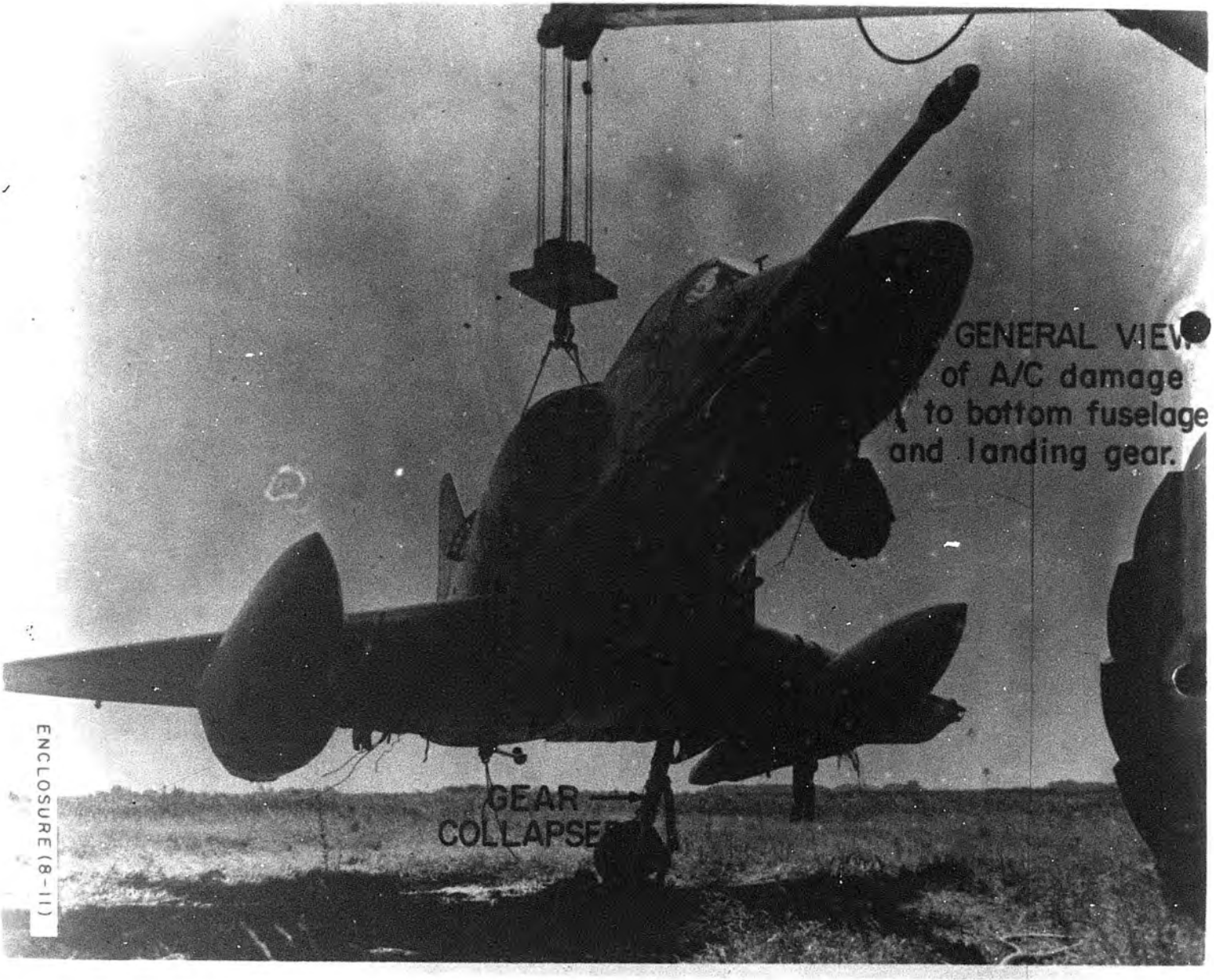


ENCLOSURE (8-8)



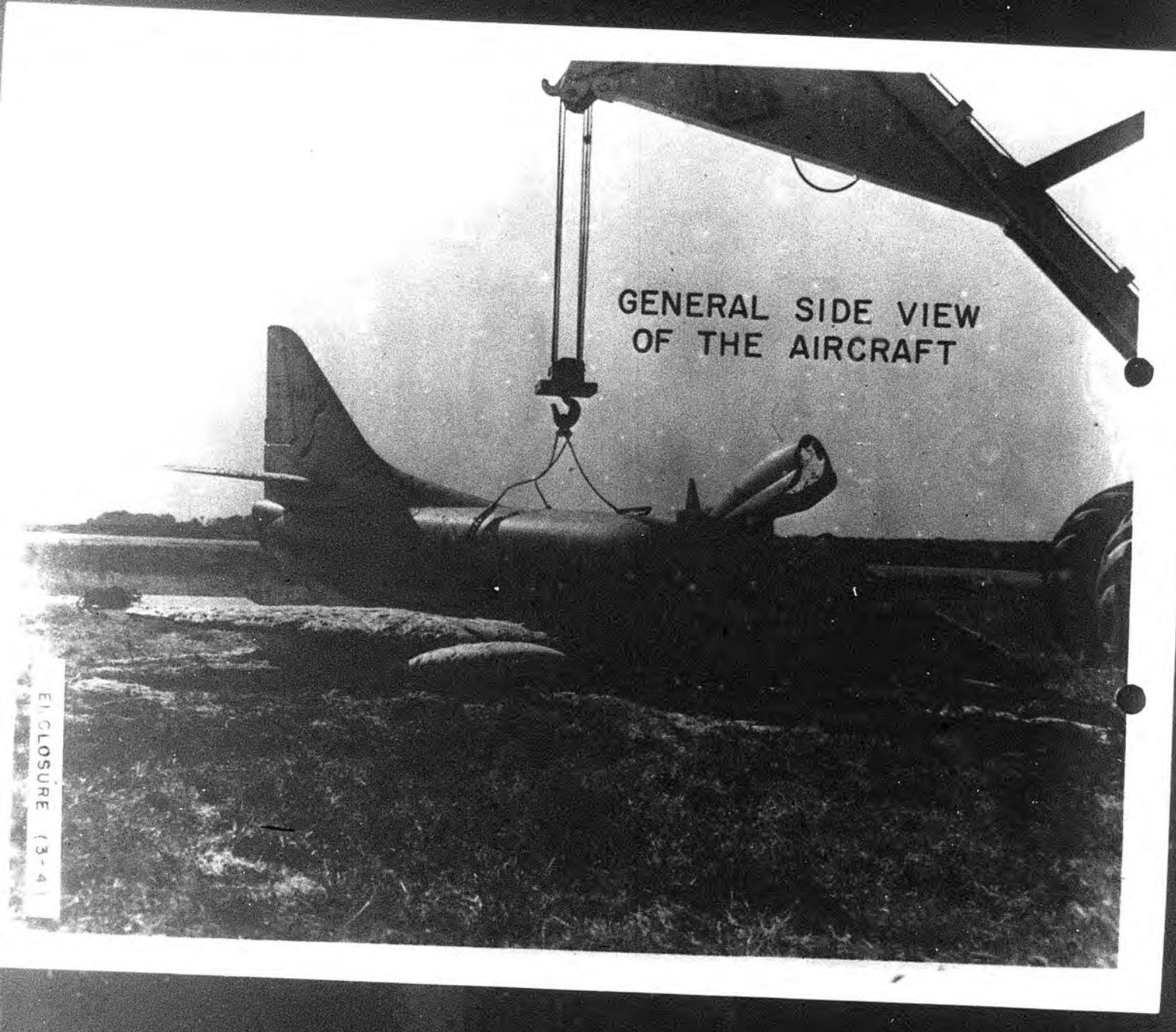
ENCLOSURE (8-9)


ANTENNA
ENCLOSURE (8-10)

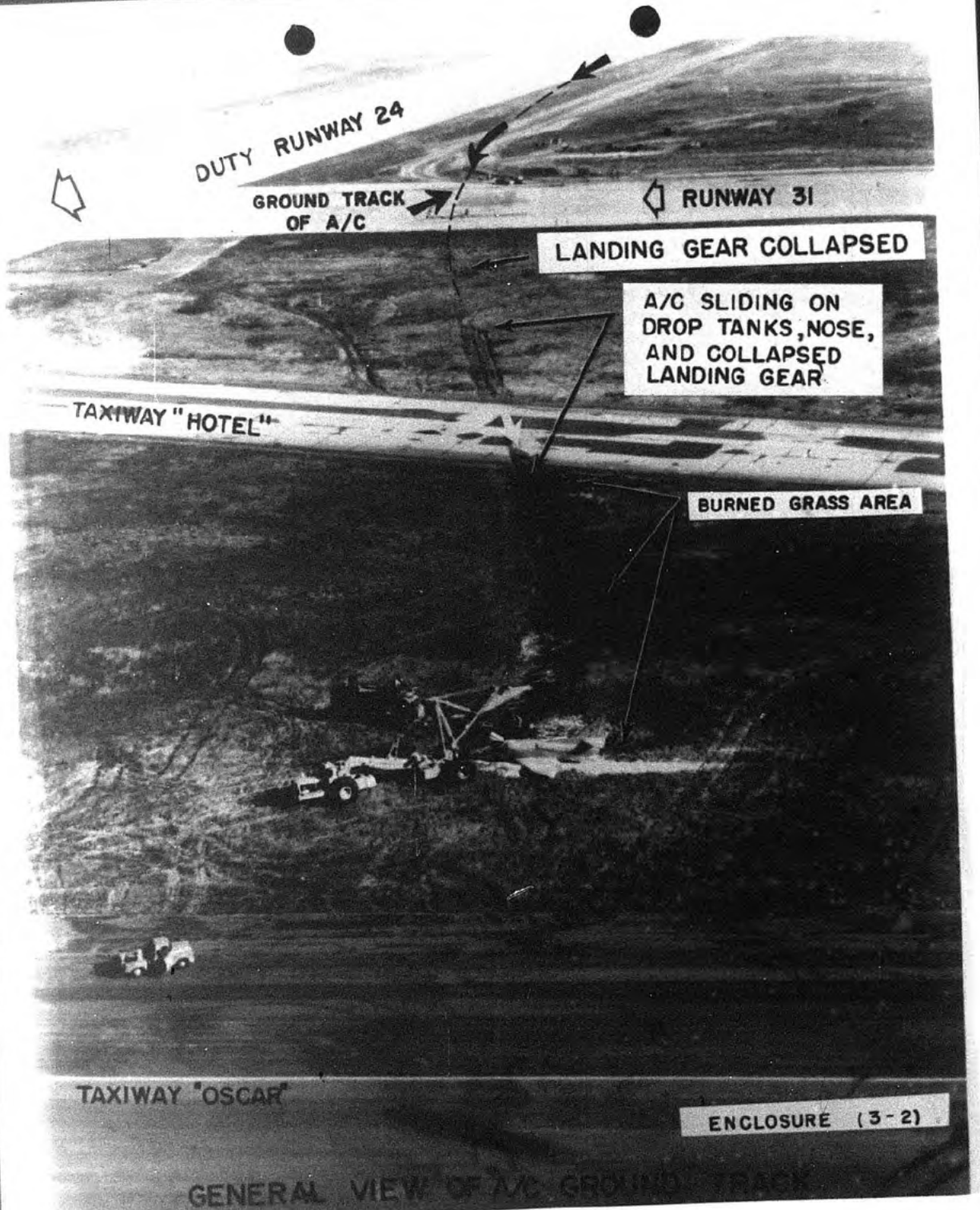


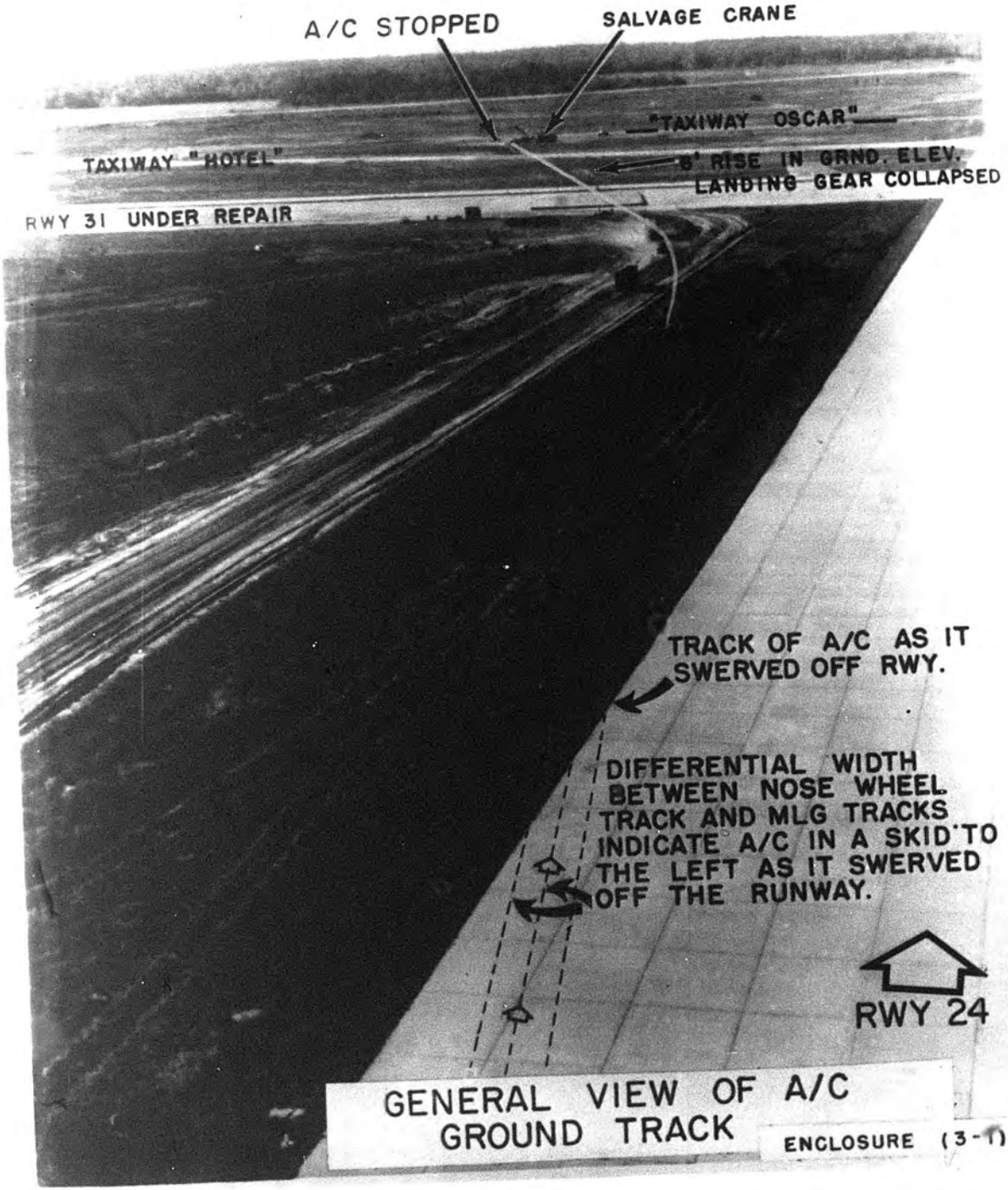
ENCLOSURE (8-11)

ENCLOSURE (3-3)



ENCLOSURE (3-4)


DUTY RUNWAY 24
GROUND TRACK OF A/C
RUNWAY 31
LANDING GEAR COLLAPSED
A/C SLIDING ON DROP TANKS, NOSE, AND COLLAPSED LANDING GEAR
TAXIWAY "HOTEL"
BURNED GRASS AREA
TAXIWAY "OSCAR"
ENCLOSURE (3-2)
GENERAL VIEW OF A/C GROUND TRACK



GENERAL VIEW OF A/C GROUND TRACK

ENCLOSURE (3-1)